Supreme Court, U.S.
FILED

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No. 03-

IN THE

# Supreme Court of the United States

ACCUSCAN, INC.,

*Petitioner,*

*v.*

XEROX CORPORATION,

*Respondent.*

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

## PETITION FOR A WRIT OF CERTIORARI

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## QUESTIONS PRESENTED

In the last term, this Court remanded the case below for further proceedings in light of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). In *Festo*, the Court affirmed the continued vitality of the doctrine of equivalents by overturning the "absolute bar" announced by the Federal Circuit. Efforts to circumvent the doctrine of equivalents continue. The Federal Circuit decision below uses claim arguments, statements made during prosecution by the patentee to the patent examiner, to eliminate the doctrine of equivalents.

This Court's previous treatment of claim arguments stated, "We do not attribute the force of an estoppel to what was said by the claimant in seeking to avoid prior art." *Keystone Driller Co. v. Northwest Engineering Corp.*, 294 U.S. 42, 48 (1935). Since *Keystone*, the doctrine of argument-based prosecution history estoppel and claim surrender by argument have evolved into a proposition that diametrically opposes the Court's previous pronouncement. Claim arguments can now, as in the case below, unconditionally estop the doctrine of equivalents and arbitrarily restrict claim terms. The questions presented, therefore, are:

1. Whether prosecution history estoppel created by legal argument is subject to the limitations enunciated in *Festo* for prosecution history estoppel by claim amendment?

2. Whether arguments during patent prosecution to distinguish prior art can surrender subject matter broader than the prior art embodiment under the doctrine of claim disclaimer or prosecution history estoppel?

## PARTIES TO THE PROCEEDING

The names of all parties in the court whose judgment is sought to be reviewed appear in the caption of this petition for writ of *certiorari*.

Petitioner is AccuScan, Inc. ("AccuScan"). Pursuant to Supreme Court Rule 29.6, petitioner states that it has no parent company and that no publicly held company owns 10% or more of AccuScan's stock.

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IN THE

**SUPREME COURT OF THE UNITED STATES**

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ACCUSCAN, INC., *Petitioner*,

v.

XEROX CORPORATION, *Respondent*.

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**PETITION FOR A WRIT OF CERTIORARI TO THE TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

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Petitioner AccuScan, Inc. ("AccuScan") respectfully petitions for a writ of *certiorari* to review the judgment of the United States Court of Appeals for the Federal Circuit.

## OPINIONS BELOW

The September 17, 2003 Opinion of the Court of Appeals for the Federal Circuit is unreported and is reproduced beginning at Appendix page 1a. This Court's June 3, 2002 judgment vacating the prior judgment of the Federal Circuit and remanding the case to the Federal Circuit for further consideration in light of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) is reproduced beginning at Appendix page 7a. The May 31, 2001 Opinion of the Court of Appeals for the Federal Circuit is unreported and is reproduced beginning at Appendix page 8a. The Opinion and Order of the United States District Court for the Southern District of New York dated March 14, 2000 is unreported and is reproduced beginning at Appendix page 28a. The Opinion and Order of the United States District Court for the Southern District

of New York dated September 10, 1998 is unreported and is reproduced beginning at Appendix page 36a. The July 3, 2001 Order of the Court of Appeals for the Federal Circuit denying AccuScan's timely petition for rehearing and declining AccuScan's suggestion for rehearing *en banc* is not reported and is reproduced beginning at Appendix page 65a.

## JURISDICTION

The judgment of the Court of Appeals for the Federal Circuit was entered on September 17, 2003. App. 1a. The jurisdiction of the Federal Circuit was invoked pursuant to 28 U.S.C. § 1295(a)(1). The jurisdiction of this Court is invoked pursuant to 28 U.S.C. § 1254(1).

## CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

The Patent Clause of the United States Constitution grants Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8.

## STATEMENT OF THE CASE

This case presents a circumvention of the firmly-established "doctrine of equivalents" in patent law. The doctrine asserts, "If patents were always interpreted by their literal terms, their value would be greatly diminished. Unimportant and insubstantial elements could defeat the

patent, and its value to inventors could be destroyed by simple acts of copying." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002). In accordance with more than one-hundred years of development in the case law, recent decisions by this Court have affirmed the continued vitality of the doctrine. *Id.*; *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997). Despite repeated attempts in the lower courts to curtail and even eliminate the doctrine of equivalents, this Court has refused to overturn its equitable approach to infringement analysis, an approach fortified by an entire body of carefully-considered jurisprudence that dates as far back as the beginning of this country's patent system. The law embraced by the Federal Circuit decision below, if consistently applied, effectively eradicates the doctrine of equivalents.

Petitioner AccuScan Corporation owns U.S. Patent No. 3,952,144 ("the Kolker patent"). The Kolker patent discloses innovations in the duplication of images in shades of grey ("greyscale"). Prior to the Kolker patent, attempts to duplicate images using greyscale resulted in each scanned page possessing a unique background shade and image contrast. Because the duplicating device would produce documents marred by page after page of variable background shading and image resolution, the then-existing technology for the reproduction of images using greyscale was both functionally and aesthetically undesirable. Attempts to photocopy a document in greyscale resulted in each page having poor and varying resolution. The invention claimed in the Kolker patent enabled duplication of greyscale, unencumbered by variegated contrast and background shading.

In the patenting process, arguments that distinguish prior art accompany virtually every claim of every patent application. To establish that a particular application warrants a patent, an applicant must demonstrate to the U.S. Patent and Trademark Office ("PTO") that the invention has not already been anticipated by a single prior art reference (35 U.S.C. § 102) and would not be obvious in light of the prior art (35 U.S.C. § 103). In correspondences between the PTO and the patent applicant subsequent to filing of the patent application, the applicant frequently offers claim arguments that explain why the invention claimed in the patent application is either distinct from or not obvious in light of prior art.

Arguments do not alter the patent claim language; they are statements made by the patent applicant that do not necessarily speak directly to a claim amendment. As a method of estopping the doctrine of equivalents, claim arguments have traditionally received less specific treatment by this Court than claim amendments, perhaps because claim amendments alter the language of patent claims. Claim arguments were not explicitly addressed either in the "absolute bar" for amended claim elements created by the Federal Circuit in its *Festo* decision, or in this Court's reversal of that decision. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558 (Fed. Cir. 2000), *rev'd* 535 U.S. 722 (2002). As a result of the lack of specific treatment by this Court, the area of claim arguments has left open an avenue whereby the lower courts may circumvent the well-established doctrine of equivalents.

By finding that arguments to distinguish prior art narrow claim terms and creates an unrebuttable estoppel upon the doctrine of equivalents, the Federal Circuit panel

below reached far beyond the absolute bar of the Federal Circuit's *en banc Festo* decision, which this Court reversed. While fortunate for the continued viability of the patent system that the Federal Circuit chose not to impart precedential authority upon its opinion below, the decision nonetheless exploits an area of patent law that allows future courts to circumvent this Court's decision in *Festo* by finding a full estoppel of the doctrine of equivalents based only upon claim arguments. Petitioner requests that the Court provide much-needed guidance as to the effect upon claim disclaimer and the doctrine of equivalents of claim arguments made to distinguish prior art.

### *A. The Kolker Patent*

The patent application to the Kolker patent ("the Kolker application") was filed on October 2, 1974. The Kolker patent issued on April 20, 1976. The patented invention covers methods and apparatus for automatic background and contrast control. The invention specifically addresses the correction of distorted background shading and image contrast caused by the drift of offsets and amplitude variations of video signal.

In the scanning process of copying a document, a light source generates a beam which is reflected off of the original document. Due to light absorption, lighter areas of the original document reflect more light, whereas darker areas reflect less light. An area that is purely white will reflect all light and an area that is purely black will absorb all light. An apparatus that reproduces documents utilizes a light sensor to detect how much light an original reflects in each area of the document. The light sensor then sends a voltage output signal ("$V_o$") that dictates the shade of each area of the reproduced document. The more light that the

sensor detects, the lighter that area of the reproduced document. The less light that the sensor detects, the darker that area of the reproduced document.

Before the Kolker patent was publicly disclosed in 1976, the properties of light sensors hindered attempts to produce faithful reproductions of documents. Light sensors were subject to voltage offsets and gain variations that distorted the voltage signal transmitted by the light sensor. The fluctuations of light sensors, which could not be cost-effectively avoided, were caused by a number of factors, including variable intensity of the light source, temperature changes, and aging. Due to these distortions and fluctuations, the white background of a reproduced document would change in shade and, correspondingly, the contrast of the darker, image-containing areas would vary.

The Kolker patent addressed the instability of light sensors by adding an inexpensive and entirely unique step to the process of reproducing documents. It involved calibrating the duplicating device so that fixed voltage values for pure white and pure black–the extreme ends of the greyscale spectrum–were used as reference points during scanning. By establishing a stable baseline for the voltage values associated with pure white and pure black, the Kolker patent application successfully corrected the distortions caused by fluctuating light sensors. Through a series of mathematical operations, the baseline values for pure white and pure black were constantly incorporated into the voltage output signal, $V_o$, emitted by the light sensor. As a result, the reproduced document was no longer marred by page after page of variable background shading and image contrast.

*B. The Prior Art*

After filing an application, a patent applicant usually receives an Office Action from the PTO, rejecting one or more claims of the application. The most frequent causes of initial rejection are based upon prior art that the PTO's patent examiner believes might anticipate the patent application's claims or make the claims too obvious to justify a patent. 35 U.S.C. §§ 102 and 103. The patent applicant may then respond with: (i) claim amendments that alter the language of the patent application's claims; (ii) claim arguments that distinguish the prior art from the patent application's claims; or (iii) both. Upon reconsideration of the patent application in light of the applicant's response, the PTO may decide to allow claims and issue a patent. As indicated by the eventual issuance of initially-rejected patent applications, the process of communication between the patent applicant and the PTO not only prevents the protection of non-patentable ideas, but also results in the public disclosure and legal protection of patentable innovations.

The Kolker application received an initial rejection from the PTO. The PTO employed the statutory non-obviousness requirement of 35 U.S.C. § 103, referencing as prior art U.S. Patent Nos. 3,761,610 ("the Krallinger reference") and 2,909,957 ("the Johnson reference"). In an Office Action to the Kolker applicant, the PTO stated, "It would be obvious to one of ordinary skill in the art to use extreme black and white reference pulses as taught by B [the Johnson reference] as the black and white reference levels in a facsimile system such as shown by A [the Krallinger reference]." *Office Action*, June 9, 1975, at 3.

In accordance with statute, neither the Johnson reference nor the Krallinger reference alone disclosed the invention claimed in the Kolker application. In employing the § 103 non-obviousness requirement, the PTO examiner cited two references that, when considered in tandem, were believed to render the Kolker application claims obvious to one having ordinary skill in the art. The Johnson reference is not in the field of duplicating documents; rather, it is in the field of video signals recorded on a magnetic tape or other recording medium.

The Johnson reference differed from the Kolker application in that voltage values for both pure black and pure white are not stored and combined to perform corrective calibration of background and image resolution. Only a voltage value for a black signal is stored and subsequently used. The Johnson reference does not disclose storing a voltage value for a white signal, nor does it disclose combining such a value with the voltage value for a black signal. As described above, the storage and subsequent use of a voltage value for pure white is of central importance in the invention claimed in the Kolker patent.

The Krallinger reference is in the field of scanning and reproducing documents, the same field as that of the Kolker application. In distinguishing the Krallinger reference, the Kolker applicant stated:

> It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized [in the Krallinger reference], the operation being merely that of setting the gain of the amplifier 24 and then using this

> fixed gain amplifier 24 as a multiplying or amplifying unit *throughout the completion of the single line scan period. At the completion of each line scan the Krallinger et al. circuit is reset by the sync pulse and repeats its calibration and operation functions during each successive line scan.*

App. 72a (emphasis added). Like the Johnson reference, the Krallinger reference does not disclose storing and utilizing a voltage value for white. The Krallinger reference discloses the use of a multiplication circuit, a fact that the Kolker applicant points out by stating, "[N]o divide circuit is utilized." App. 72a.

Storage and utility of a voltage value for white, as well as use of a divide function, are secondary considerations to the primary reason the Kolker applicant gave for distinguishing the Krallinger reference. The primary difference between the Krallinger reference and the invention claimed in the Kolker patent is that the Krallinger reference teaches to obtain a different white value for each line of the scanned document by scanning the shade in the left margin of each line. The Kolker applicant emphasized this primary distinction in the sentence discussing the secondary difference, and in the next sentence of the above excerpt. In the next paragraph, the Kolker applicant elaborated upon the effect of this primary distinction:

> This operation of *recalibrating at each line of the scan* in the Krallinger, et al. device presents its own peculiar problems. If the black line or the white margin varies in shade along its length, this will result in

> different shading and contrast characteristics along the length of the document page being transmitted by the Krallinger, et al. transmitter.

App. 72a. (emphasis added). Hence, the Krallinger reference teaches to calibrate line-by-line and not page-by-page as in the invention claimed in the Kolker patent. The Krallinger reference therefore cannot provide accurate reproduction of a greyscaled document, like a photograph, but instead converts the background shade, whether it be light or dark, to white. In the Krallinger reference, only a voltage value for a black sample is stored and subsequently used throughout the document. The Krallinger reference teaches to use only the black voltage value in a mathematical operation that employs multiplication.

Neither the Johnson reference nor the Krallinger reference discloses the invention claimed in the Kolker patent. Nor do these references, when considered in conjunction, render the Kolker patent claims obvious. The PTO accepted the Kolker applicant's arguments and, on April 20, 1976, issued the Kolker patent.

### *C. The Proceedings Below*

Two trials in the United States District Court for the Southern District of New York resulted in findings of infringement of the Kolker patent by respondent Xerox Corporation ("Xerox"). Xerox sold four lines of products–a publishing system, a color copier, a scanner, and facsimile machines–that used voltage values for black and white to correct background shading and image resolution. In the first district court trial, a jury found that each of Xerox's product lines infringed the Kolker patent claims.

App. 36a. The jury awarded AccuScan damages. The court denied Xerox's motion for judgment as a matter of law on the issue of infringement and ordered a new trial to reconsider the amount of damages. In the second district court trial, a jury again awarded AccuScan damages for infringement of the Kolker patent. App. 28a. The district court denied Xerox's motion for judgment as a matter of law.

Xerox appealed to the Court of Appeals for the Federal Circuit. In an unpublished decision, a three-member panel reversed the findings of the district court. App. 8a-27a. The panel cited the Federal Circuit's now reversed *Festo* decision in holding, "For purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox." App. 20a. The panel found that, by distinguishing the Krallinger reference during prosecution history, the Kolker applicant had "explicitly disclaimed coverage of any device performing the mathematical calculation yielding $V_o$ by something other than a divide circuit." App. 16a. The Krallinger reference used only a black voltage value in a multiplication operation. The invention claimed in the Kolker patent incorporated both black and white voltage values into a division operation.

In its analysis, the Federal Circuit panel noted that one of the products sold by Xerox performed the calculation "by multiplication of a reciprocal" and that another product performed the calculation "by subtracting logarithmic values." App. 17a. AccuScan argued that multiplication by a reciprocal and subtraction of logarithms yield values that are representative of division. Addressing

this argument, the panel agreed, "Certainly, this is mathematically correct." App. 17a.

The Federal Circuit panel observed that each of Xerox's products "only temporarily store the white sample $V_w$ in its pure form. . . . before being converted to the difference value ($V_w$ - $V_b$)" App. 20a. With respect to the storage of a voltage value for pure white, the panel examined the prosecution history. The panel noted, "Such continuous storage and usage statements were made repeatedly by the prosecuting attorney." App. 19a. In its discussion of the prosecution history, the Federal Circuit panel did not note or address the fact that, in the same communication from the patent applicant to the PTO, claim 1 of the Kolker patent was amended by addition of the term "continually." App. 68a.

This Court granted *certiorari* to hear the case and vacated the Federal Circuit decision. App. 7a. Prior to this decision, the Court reversed the Federal Circuit's November 2000 *Festo* decision holding that narrowing claim amendments for the purposes of patentability imposes an absolute bar upon the doctrine of equivalents. *See Festo*, 535 U.S. at 738-39. The Court remanded this case for further proceedings in light of its decision in *Festo*. App. 7a.

In *Festo* this Court held:

> There is no reason why a narrowing amendment should be deemed to relinquish equivalents unforeseeable at the time of the amendment and beyond a fair interpretation of what was surrendered. Nor is there any call to foreclose claims of equivalence for

> aspects of the invention that have only a peripheral relation to the reason the amendment was submitted.

*Festo*, 535 U.S. at 738. Elaborating upon these standards, the Court stated:

> There are some cases, however, where the amendment cannot reasonably be viewed as surrendering a particular equivalent. The equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. In those cases the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence.

*Id.* at 740.

Upon remand of this case to the Federal Circuit, the same three-member panel, in the unpublished decision at bar, upheld its original decision to reverse the district court findings. App. 1a-6a. The panel noted that "prosecution history estoppel does not apply . . . when there is no relevant amendment during prosecution of the patent application." App. 2a. As a result, the panel concluded that this Court's *Festo* ruling does not apply to prosecution estoppel by claim argument, but only to prosecution history estoppel by amendment. Once again, based upon claim

arguments made during patent prosecution, the Federal Circuit panel found that "the claims in suit required continuous storage of the $V_w$ value in its pure form and continuous combining of this value." App. 4a.

To begin the legal analysis, the panel below elaborated upon its conception of prosecution disclaimer:

> As we recently explained, "[t]he doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). Contrary to prosecution history estoppel which limits the doctrine of equivalents, *Warner-Jenkinson*, 520 U.S. at 30, prosecution disclaimer applies to the determination of literal infringement by excluding from the claim construction any claim scope that has been clearly and unmistakably disavowed during prosecution. *See Omega*, 334 F.3d at 1323-26.

App. 3a. The invention claimed in the Kolker patent uses a voltage value for black and a voltage value for white in a divide circuit to accomplish page-by-page calibration. In contrast, the Krallinger reference referred only to a voltage value for black in a multiplication circuit, sensed white on a line-by-line basis in the margin of each line and did not store white in any form. The Xerox products store and use a voltage value for black and a voltage value for white in circuits that are mathematically representative of division to accomplish page-by-page calibration, like the Kolker

patent, not line-by-line calibration like the Krallinger reference. Still, the Federal Circuit panel proceeds to quote its previous decision to find that, by distinguishing the prior art of the Krallinger reference, the Kolker applicant "explicitly disclaimed coverage" of the Xerox products. App. 3a.

Having used claim arguments to narrow the patent claims beyond the prior art embodiment distinguished by the patentee, the Federal Circuit panel found no literal infringement. The panel then proceeded to eliminate the doctrine of equivalents:

> But having concluded that there was no literal infringement as a matter of law, we then considered whether the accused devices might nonetheless infringe under the doctrine of equivalents. We answered that inquiry in the negative, by stating that "[f]or purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox."

App. 5a (citations omitted). The panel below circumvents *Festo* analysis by equating the standard for disclaimer by claim argument with the standard for prosecution history estoppel by claim argument:

> That conclusion was not based on any narrowing amendment giving rise to prosecution history estoppel. (n.1. Our original opinion's citation to the en banc *Festo* decision merely aimed to provide a background of the various estoppels that may

> arise from actions or arguments made by the patentee during prosecution. *See AccuScan*, 18 Fed. App. at 834.) *Rather, that ruling was necessitated by the well-settled doctrine of argument-based estoppel, which arises from the patentee's representations to the Patent and Trademark Office during prosecution. See Tex. Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1174-75 (Fed. Cir. 1993). *Indeed, our ruling unequivocally referred to a "clear and unmistakable surrender," which stands as the legal standard for argument-based estoppel. Id.* In noting the patentee's "clear and unmistakable surrender" and ruling that there was no infringement by equivalents, we simply gave effect to the conclusion necessarily flowing from the previous discussion of the proper claim construction: because the clear and unmistakable standard that applies to prosecution disclaimer "is the same standard applicable, in the context of the doctrine of equivalents, to the doctrine of argument-based estoppel," *Omega*, 334 F.3d at 1326 n.1, a patentee cannot recapture through the doctrine of equivalents subject matter already precluded by the doctrine of prosecution disclaimer. *See Cordis Corp. v. Medtronic AVE, Inc.*, Nos. 02-1457, -1458, -1481, -1482, slip op. at 17 (Fed. Cir. Aug. 12, 2003).

App. 5a-6a (emphases added). The Federal Circuit panel used the patent applicant's argument to distinguish prior art, without any amendment of the patent claims, to

foreclose the doctrine of equivalents, totally and unrebuttably. Thus, an applicant who merely makes an argument to distinguish the prior art, and not an amendment of the claims, is denied the opportunity to show that the argument is tangential to the equivalent accused of infringement and that the features of the invention mentioned in the argument are peripheral to its purpose. Such a holding runs counter to this Court's affirmance of the doctrine of equivalents in *Festo*.

## REASONS FOR GRANTING THE WRIT

### I. *Certiorari* Should Be Granted To Announce The Appropriate Standards For Estopping The Doctrine Of Equivalents By Claim Arguments

In *Festo*, this Court held that prosecution history estoppel as a result of a claim amendment does not foreclose application of the doctrine of equivalents where the infringing equivalent "may have been unforeseeable at the time of the application," when "the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question," and where the features of the invention which are the subject of the amendment are "peripheral" to the purpose of the amendment. *Festo* 535 U.S. at 740 (2002). The Federal Circuit panel below refused to apply this holding to the application of prosecution history estoppel by legal argument.

This Court rejected the notion that prosecution history estoppel could be created solely by claim argument in its last explicit treatment of the issue. *Keystone Driller Co. v. Northwest Eng'g Corp.*, 297 U.S. 42, 48 (1935). The doctrine of prosecution history estoppel by legal argument developed in the law of the regional circuits, and more

recently in the Federal Circuit. *See, e.g., Wiegand v. W. Bingham Co.*, 106 F.2d 546, 548 (6th Cir. 1939); *Festo*, 234 F.3d at 568. Prosecution history estoppel by argument is a doctrine that originates from claim interpretation and, according to the jurisprudence of the lower courts, is derivative to the classic doctrine of prosecution history estoppel by claim amendment. *See, e.g., Festo*, 234 F.3d at 568 ("There is no reason why an amendment-based surrender of subject matter should be given less force than an argument-based surrender of subject matter.") Given this status, the doctrine of prosecution history estoppel by legal argument developed by the circuit courts should be subject to the same "foreseeability," "tangentialness" and "peripheral" limitations that govern prosecution history estoppel by amendment as enunciated by this Court in *Festo*, 535 U.S. 722.

In the PTO, the Kolker applicant distinguished the Krallinger reference by arguing:

> It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized [in the Krallinger reference], the operation being merely that of setting the gain of the amplifier 24 and then using this fixed gain amplifier 24 as a multiplying or amplifying unit *throughout the completion of the single line scan period. At the completion of each line scan the Krallinger et al. circuit is reset by the sync pulse and repeats its calibration and operation functions during each successive line scan.*

> This operation of *recalibrating at each line of the scan* in the Krallinger, et al. device presents its own peculiar problems. If the black line or the white margin varies in shade along its length, this will result in different shading and contrast characteristics along the length of the document page being transmitted by the Krallinger, et al. transmitter.

App. 72a (emphases added).

The Kolker patent applicant's statements make clear that the basis for distinguishing the Krallinger reference was that the applicant's invention provided page-by-page calibration for greyscale rather than the line-by-line calibration disclosed in the Krallinger reference in which there was no need to store the white value because a new white value was sensed in the margin of each line. In contrast, the Xerox products accused of infringement use page-by-page calibration, just as in the Kolker patent, and store a white sample for each page in the form of $(V_W-V_b)$ and employ a divide circuit to compute the reciprocal $1/(V_W-V_b)$. Therefore, the arguments made to distinguish the Krallinger reference, as well as the references to Krallinger's lack of a divide circuit and failure to store $V_W$ because a new $V_W$ is obtained for each line in the scanned document are clearly tangential to the Xerox equivalents to the Kolker patent claims.

The Federal Circuit panel's analysis divorces prosecution history estoppel by legal argument from its historical roots as an extension to the doctrine of prosecution history estoppel by claim amendment. Prosecution history estoppel is a single legal doctrine with

a long history and the exceptions enunciated to it by this Court in *Festo* of "foreseeability," "tangentialness" and "peripheralness" for distinctions urged over the prior art should be as applicable to prosecution history estoppel by argument as they are to classical prosecution history estoppel by claim amendment from which the legal argument corollary to the doctrine proceeds.

## II. *Certiorari* Should Be Granted To Determine Whether Claim Arguments To Distinguish Prior Art Surrender Subject Matter Greater Than The Distinguished Embodiment

If patentees unconditionally forfeit infringement protection under the doctrine of equivalents due to statements that explain how prior art is different from the patented invention, then the doctrine of prosecution disclaimer overreaches. Distantly analogous prior art exists for any patent application claim, given the PTO's statutory ability under the § 103 non-obviousness requirement to parse a claim into multiple elements and select from the universe of prior art for each element. If patentees, as a result of distinguishing prior art that marginally relates to a single element of the claim, are held to surrender a range of subject matter broader than that represented by the prior art, then the patent claim becomes the "hollow and useless thing" that this Court has sought to avoid. *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950).

In the decision below, the Federal Circuit panel characterized as "mathematically correct" the observation that subtraction of the logarithms of two distinct values yields a third value that reflects the division of the original two values. App. 17a. The panel also conceded that the

product of one value and the reciprocal of another value yields a third value that reflects the division of the original two values. App. 17a. The Krallinger reference, the prior art that the Federal Circuit used to estop the doctrine of equivalents, only utilized the voltage value for pure black in a multiplication operation for line-by-line calibration. By distinguishing the Krallinger reference, the Kolker applicant should be deemed to have only surrendered the specific subject matter embodied in that reference. Instead, the Federal Circuit concluded that the Kolker applicant surrendered any circuit that does not utilize division, a far broader range of subject matter than the Krallinger reference disclosed.

In the Krallinger reference, a voltage value for black is multiplied by another number that is completely unrelated to the voltage value for pure white. The Krallinger reference does not combine the pure black reference voltage value with the pure white reference voltage value. The Kolker applicant's argument distinguishing the Krallinger reference simply pointed out that the division of two necessary values does not encompass multiplication using only one of these values.

A claim argument should not serve to narrow the claim interpretation beyond disclaimer of the particular embodiment distinguished. In light of the Krallinger reference, the finding of clear and unmistakable surrender of all subject matter that mathematically reflects the division of both the black voltage value and the white voltage value, save for the exact embodiments disclosed in the Kolker application, is overly-broad. A "clear and unmistakable surrender" standard for prosecution disclaimer has been adopted by the Federal Circuit. *See, e.g.*, App. 5a; *Omega Eng'g, Inc.*, *supra*, 334 F.3d at 1325

("Based on the clear disavowal found in the file wrapper, we concluded that the accused device did not include an equivalent to the claimed function's corresponding structure."). However, as demonstrated by the decision below, application of this standard is not uniformly restricted to claim surrender of the specific embodiment of the prior art distinguished.

The use of prosecution disclaimer to narrow claim interpretation beyond surrender of the specific prior art presents a problem that might be partially remedied by availability of the doctrine of equivalents to cover subject matter unrelated to the distinguished prior art. Such a remedy was not available to AccuScan, because the decision below proceeded to find that, in light of the Kolker applicant's claim arguments, no range of equivalents were available. As in its claim construction analysis, the Federal Circuit panel employed the standard of "clear and unmistakable surrender" of the subject matter to find an absolute bar to the application of the doctrine of equivalents. App. 5a. This standard arises from Federal Circuit jurisprudence. *See Tex. Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1174-75 (Fed. Cir. 1993). As applied below, it allows for the surrender of subject matter that reaches beyond the embodiment of prior art.

The Federal Circuit used an argument made during patent prosecution to find a clear, unmistakable surrender of subject matter far more expansive than the prior art embodiment that the patent applicant distinguished. The panel below found that this surrender was accompanied by a loss of infringement protection under the doctrine of equivalents. Under this reasoning, Xerox was then free from infringement and could sell products that were

insubstantially different from the Kolker patent. Should the legal rule employed by the Federal Circuit panel below enjoy widespread application, then protection for existing patents is seriously compromised. If prosecution disclaimer reaches beyond the embodiment of the prior art, then neither the patentee nor the public can know what the claim covers in light of the distinguishment of prior art. A Court pronouncement that distinguishing prior art does not constitute a clear and unmistakable surrender of subject matter outside of the prior art embodiment is necessary to preserve the doctrine of equivalents.

## CONCLUSION

For the reasons set forth above, the petition for a writ of *certiorari* should be granted and the judgment below reversed.

Respectfully submitted,

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**APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DECIDED SEPTEMBER 17, 2003**

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

00-1316, -1320, -1406

ACCUSCAN, INC.,

Plaintiff-Cross Appellant,

v.

XEROX CORPORATION,

Defendant-Appellant.

DECIDED: September 17, 2003

Before CLEVENGER, Circuit Judge, PLAGER, Senior Circuit Judge, and SCHALL, Circuit Judge.

CLEVENGER, Circuit Judge.

Xerox Corporation ("Xerox") appealed the post-verdict judgment of the United States District Court for the Southern District of New York upholding a jury verdict of patent infringement in favor of AccuScan, Inc. ("AccuScan"). On May 31, 2001, this court issued a ruling which reversed the denial of Xerox's motion for a judgment as a matter of law ("JMOL") of noninfringement, affirmed the denial of Xerox's motion for JMOL of invalidity pursuant to 35 U.S.C.

§ 102(b), and dismissed as moot the remaining issues. *AccuScan, Inc. v. Xerox Corp.*, 18 Fed. App. 828 (Fed. Cir. May 31, 2003) (nonprecedential). AccuScan petitioned the Supreme Court for review, and on June 3, 2002, the Court granted certiorari, vacated our decision, and remanded the case to this court for reconsideration in light of *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002) (*"Festo VIII"*). *AccuScan, Inc. v. Xerox Corp.*, 535 U.S. 1109 (2002).

Based on the Supreme Court's instruction, we have reconsidered this case and, once again, *reverse* the denial of Xerox's motion for JMOL of noninfringement, *affirm* the denial of Xerox's motion for JMOL of invalidity, and *dismiss* as moot the remaining issues.

I

Prosecution history estoppel stands "as a legal limitation on the doctrine of equivalents." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 30 (1997). Since this restriction on the doctrine of equivalents applies "only where claims have been amended for a limited set of reasons," *id.* at 32, prosecution history estoppel does not apply to claim construction, literal infringement analysis, or when there is no relevant amendment during prosecution of the patent application. Applying that settled rule to this action, we hold that prosecution history estoppel was not implicated in this case and that the holding of *Festo VIII* does not affect this instant appeal.

*Appendix A*

A

In our original opinion, our discussion of prosecution history mainly focused on the application of the doctrine of prosecution disclaimer, rather than prosecution history estoppel. *AccuScan,* 18 Fed. App. at 830-34. As we recently explained, "[t]he doctrine of prosecution disclaimer is well established in Supreme Court precedent, precluding patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g, Inc. v. Raytek Corp.,* 334 F.3d 1314, 1323 (Fed. Cir. 2003). Contrary to prosecution history estoppel which limits the doctrine of equivalents, *Warner-Jenkinson,* 520 U.S. at 30, prosecution disclaimer applies to the determination of literal infringement by excluding from the claim construction any claim scope that has been clearly and unmistakably disavowed during prosecution. *See Omega,* 334 F.3d at 1323-26.

Applying prosecution disclaimer to our interpretation of AccuScan's claims in suit, we ruled that the proper construction of claims 1 and 17 excluded anything other than the use of division to perform the claimed mathematical calculation. *AccuScan,* 18 Fed. App. at 832. As our original opinion explained, the patentee "explicitly disclaimed coverage of any device performing the mathematical calculation yielding VO by something other than a divide circuit," when it attempted to distinguish the claimed invention from the prior art underlying the obviousness rejection. *Id.* In other words, during prosecution, the patentee had proffered arguments that clearly and unmistakably disclaimed anything other than the use of division to perform

the mathematical calculation. *See id.* Given that claim construction, we held that the accused DocuTech system and 5775 copier could not literally infringe the asserted claims because they did not perform the calculation by using division; the DocuTech system used multiplication of a reciprocal rather than a divide circuit, while the 5775 copier performed the calculation by subtracting logarithmic values. *Id.*

We further determined that, as compelled by the doctrine of prosecution disclaimer, the claims in suit required continuous storage of the $V_w$ value in its pure form and continuous combining of this value. *Id.* at 833-34. Indeed, during prosecution, the patentee had distinguished the invention over the prior art, including the Krallinger reference, by emphasizing the importance of storing a sample of the white signal. *Id.* at 833. The patentee also repeatedly insisted during prosecution that "a distinguishing feature of the '144 patent is the continual storage and continuous use of the separately stored black and white samples throughout the scanning of an entire document." *Id.* Given the continuous, clear and unmistakable nature of these disavowals during prosecution, we concluded that "[w]hen interpreted in light of these statements, both claim 1 and claim 17 require continuous 'storing' of the $V_w$ value in its pure form, and continuous 'combining' of this value throughout the scanning of the document." *Id.* Since the accused Xerox devices only stored the samples temporarily, rather than continuously, we held that there was no literal infringement as a matter of law. *Id.* at 833-34.

Until that point, our original opinion only considered literal infringement, thereby neither implicating prosecution history estoppel nor *Festo VIII*. But having concluded that there was no literal infringement as a matter of law, we then considered whether the accused devices might nonetheless infringe under the doctrine of equivalents. *Id.* at 834. We answered that inquiry in the negative, by stating that "[f]or purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox." *Id.*

That conclusion was not based on any narrowing amendment giving rise to prosecution history estoppel.[1] Rather, that ruling was necessitated by the well-settled doctrine of argument-based estoppel, which arises from the patentee's representations to the Patent and Trademark Office during prosecution. *See Tex. Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1174-75 (Fed. Cir. 1993). Indeed, our ruling unequivocally referred to a "clear and unmistakable surrender," which stands as the legal standard for argument-based estoppel. *Id.* In noting the patentee's "clear and unmistakable surrender" and ruling that there was no infringement by equivalents, we simply gave effect to the conclusion necessarily flowing from the previous discussion of the proper claim construction: because the clear and unmistakable standard that applies to prosecution disclaimer

1. Our original opinion's citation to the en banc *Festo* decision merely aimed to provide a background of the various estoppels that may arise from actions or arguments made by the patentee during prosecution. *See AccuScan*, 18 Fed. App. at 834.

"is the same standard applicable, in the context of the doctrine of equivalents, to the doctrine of argument-based estoppel," *Omega,* 334 F.3d at 1326 n. 1, a patentee cannot recapture through the doctrine of equivalents subject matter already precluded by the doctrine of prosecution disclaimer. *See Cordis Corp. v. Medtronic AVE, Inc.,* Nos. 02-1457, -1458, -1481, -1482, slip op. at 17 (Fed. Cir. Aug. 12, 2003). For those reasons, we concluded that "none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the '144 patent either literally or under the doctrine of equivalents." *AccuScan,* 18 Fed. App. at 834.

II

As mandated by the Supreme Court, we have reconsidered our original decision in this case in light of *Festo VIII.* Based on this reconsideration and as explained above, we again hold that none of the accused products infringe the asserted claims either literally or under the doctrine of equivalents, and we therefore reverse the district court's denial of Xerox's motion for judgment as a matter of law of noninfringement. For the reasons explained in our original opinion, we also hold that the patent in suit is not anticipated or invalid under the on-sale bar.

## APPENDIX B — ORDER OF THE SUPREME COURT OF THE UNITED STATES DATED JUNE 3, 2002

**SUPREME COURT OF THE UNITED STATES**

**No. 01-541**

**ACCUSCAN, INC.,**

**v.**

**XEROX CORPORATION**

**ON WRIT OF CERTIORARI** to the United States Court of Appeals for the Federal Circuit

**THIS CAUSE** having been submitted on the petition for a writ of certiorari and response thereto,

**ON CONSIDERATION WHEREOF,** it is ordered and adjudged by this Court that the judgment of the above court in this cause is vacated with costs, and the case is remanded to the United States Court of Appeals for the Federal Circuit for further consideration in light of *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. __ (2002).

**IT IS FURTHER ORDERED** that the petitioner AccuScan, Inc., recover from Xerox Corporation, Three Hundred Dollars ($300.00) for costs herein expended.

June 3, 2002

**Clerk's costs** **$300.00**

Justice Breyer took no part in the consideration or decision of this case.

## APPENDIX C — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DATED AND DECIDED MAY 31, 2001

## UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

00-1316, -1320, -1406

ACCUSCAN, INC.,

Plaintiff-Cross Appellant,

v.

XEROX CORPORATION,

Defendant-Appellant.

DECIDED: May 31, 2001

Before CLEVENGER, *Circuit Judge*, PLAGER, *Senior Circuit Judge*, SCHALL, *Circuit Judge*.

CLEVENGER, *Circuit Judge*.

Xerox Corporation ("Xerox") appeals the post-verdict judgment of the United States District Court for the Southern District of New York upholding a jury verdict of patent infringement in favor of AccuScan, Inc. ("AccuScan"). The patent at issue in this appeal is U.S. Patent No. 3,952,144 ("the '144 patent"). Xerox also appeals the denial of its motion for judgment as a matter of law ("JMOL") of patent invalidity based upon anticipation and the on-sale bar

pursuant to 35 U.S.C. § 102(b). Xerox additionally appeals the denial of its JMOL motion contesting the jury finding that AccuScan provided sufficient notice of infringement with regard to certain Xerox products, as well as the denial of Xerox's motion for a new trial pursuant to Fed. R. Civ. P. 60(b)(3).

On cross-appeal, AccuScan challenges the district court's denial of AccuScan's motion for JMOL requesting reversal of the jury's finding that Xerox did not willfully infringe. AccuScan also contests the district court's grant of a new trial on the issue of damages.

We conclude that issues of claim construction and prosecution history estoppel preclude a finding of infringement in this case. We therefore *reverse* the district court's denial of JMOL of noninfringement. Because the issue of patent invalidity was raised as a counterclaim in this case, we must also address the validity rulings regarding anticipation and the on-sale bar. *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 93-94 (1993); *Gen. Elec. Co. v. Nintendo Co., Ltd.*, 179 F.3d 1350, 1356, 50 USPQ2d 1910, 1914-15 (Fed. Cir. 1999). We *affirm* the district court's denial of JMOL of invalidity.

Our holdings moot the appeals regarding notice and the denial of a new trial, and also moot the cross-appeals regarding willfulness and the grant of a new trial regarding damages.

I

The '144 patent, entitled "Methods and Apparatus for Automatic Background and Contrast Control," is directed

towards a circuit for performing contrast calibration for a scanned document. A document is typically scanned by repeatedly sweeping a light beam across it, while a photosensor senses the light reflected off the document and generates an electrical signal representing the amount of reflected light. Variations in this input signal indicate the black and white contrast within the document. However, undesirable variations in this signal may also be caused by factors such as the age of the equipment and temperature changes.

The '144 patent discloses a calibration circuit, referred to as an "ABC" circuit, that automatically corrects the input signal. The ABC circuit first scans a calibration strip on the relevant document, which contains known black and white samples, and stores the values of these samples as reference values for the entire document. The first reference value, taken from a black sample, is designated $V_b$, and the second reference value, taken from a white sample, is designated $V_w$. During subsequent scanning and transmission of the document, the ABC circuit receives a video input signal $V_{IN}$ representing the shade of intensity of darkness or lightness of the document area then being scanned. The ABC circuit calibrates the video input signal $V_{IN}$ using $V_b$ and $V_w$ to produce a corrected output signal $V_O$, according to the equation (hereinafter, the "Kolker equation"):

$$V_O = (V_{IN} - V_b) / (V_w - V_b)$$

'144 patent, col. 4, line 63 – col. 5, line 2.

*Appendix C*

II

A jury verdict found that four of Xerox's product lines infringed the '144 patent: 1) the DocuTech publishing system, 2) the 5775 color copier, 3) the SA4 scanner, and 4) the 7017/20/21 facsimile machines. The district court denied Xerox's subsequent request for JMOL of noninfringement for all four product lines. The denial of a motion for JMOL following a jury verdict is reviewed by reapplying the district court's standard of review. *Tec Air, Inc. v. Denso Mfg. Mich., Inc.*, 192 F.3d 1353, 1357, 52 USPQ2d 1294, 1296 (Fed. Cir. 1999). A district court may overturn a jury's verdict only if, upon the record before the jury, reasonable jurors could not have reached that verdict. *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984).

On appeal, Xerox argues that when the asserted claims are properly construed as informed by the prosecution history, none of Xerox's products infringe, either literally or under the doctrine of equivalents. We review issues of law without deference, including issues of claim construction. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Whether prosecution history estoppel applies to preclude a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution, is also a question of law. *Wang Labs. Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1577-78, 41 USPQ2d 1263, 1269 (Fed. Cir. 1997).

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In construing the claims, we begin first by reviewing the intrinsic evidence, which consists of the claims, the written description, and the prosecution history. *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1323, 57 USPQ2d 1889, 1893 (Fed. Cir. 2001); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576-77 (Fed. Cir. 1996). Arguments and amendments made during the prosecution of the '144 patent limit the interpretation of the claim terms so as to exclude any interpretation that was disclaimed during prosecution. *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576, 34 USPQ2d 1673, 1676-77 (Fed. Cir. 1995); *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580, 6 USPQ2d 1557, 1561 (Fed. Cir. 1988).

Only claims 1 and 17 of the '144 patent are at issue in this litigation. Claim 1 is an apparatus claim that uses means-plus-function language:

> 1. Apparatus for processing a variable magnitude input signal representative of an input parameter which varies between predetermined first and second magnitudes, said apparatus comprising:
>
> A. means for storing a first sample of said input signal when said input parameter is at its first magnitude;
>
> B. means for storing a second sample of said input signal when said input parameter is at its second magnitude;

*Appendix C*

C. and means, operable during a reception period in which said input signal is representing varying magnitudes of said input parameter, for *continually combining said input signal and said first and second samples* to continually *produce an output signal representative of the difference in magnitude of said input signal and said first sample divided by the difference in magnitude of said first and second samples*, whereby said output signal is normalized so as to represent the magnitude of said input parameter as a fraction of the range established by the difference in magnitude of said first and second samples.

'144 patent, col. 18, line 58 – col. 19, line 11 (emphases added to illustrate contested portions).

Claim 17 is a method claim:

17. A method for operating upon a variable magnitude signal representing a parameter which varies in magnitude over a range between a predetermined low magnitude and a predetermined high magnitude, said variable amplitude signal being subject to undesired offsets and gain variations in its representation of said parameter, said method comprising the steps of:

*Appendix C*

1. storing a first sample of said variable magnitude signal when said input parameter is at its low magnitude and producing a first signal representative of said stored first sample;

2. storing a second sample of said variable magnitude signal when said input parameter is at its high magnitude and producing a second signal representative of said stored second sample;

3. thereafter during a period in which said received input signals is [sic] representing the variable magnitude parameter, *continually combining said input signal and said first signal to produce a first output signal* having a magnitude representative of the difference in magnitude of said input signal and said first signal;

4. *combining said first signal and said second signal to produce a second output signal* having a magnitude representative of the difference in magnitude of said first and second storage samples;

5. and combining said first and second output signals to *produce a third output signal representative of the quotient of their magnitudes.*

*Appendix C*

'144 patent, col. 22, lines 11-39 (emphases added to illustrate contested portions).

Xerox argues that statements made in the prosecution history to distinguish U.S. Patent No. 3,761,610 ("the Krallinger reference") limit the claims of the '144 patent in several ways. First, Xerox argues that AccuScan disclaimed the use of anything other than a "divide circuit" for the function claimed in claim 1 as: "produc[ing] an output signal representative of the difference in magnitude of said input signal and said first sample *divided by* the difference in magnitude of said first and second samples" (emphasis added). '144 patent, col. 19, lines 3-7. The portion of claim 17 corresponding to this "divide" function states: "produc[ing] a third output signal representative of the *quotient* of their magnitudes." '144 patent, col. 22, lines 29-32 (emphasis added).

The Examiner originally rejected all of the claims of the application that matured into the '144 patent pursuant to 35 U.S.C. § 103 as obvious over the Krallinger reference in view of U.S. Patent No. 2,909,597 ("the Johnson reference"). The prosecuting attorney replied to this rejection with remarks directed towards contrasting the invention of the '144 patent with the Krallinger and Johnson references. Because these remarks are not limited to any particular claim of the '144 patent, they are presumed to apply to all of the claims.

In distinguishing the '144 patent from the Krallinger reference, the prosecuting attorney stated:

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> In the further operation of the Krallinger, et al. device, during the scanning of the line the input video signal, background corrected by the black signal stored in capacitor 20, is *multiplied* [emphasis in original] by the temporarily fixed gain of the amplifier 24 throughout the remainder of the line so as to yield a background and gain compensated signal. It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, *no divide circuit is utilized* . . . (emphasis added).

The ABC circuit as disclosed in the '144 patent uses a "divide circuit 141" which "operates to divide the numerator signal by the denominator signal to continually produce a corresponding fully correct and gain controlled or normalized video output signal $V_O$." '144 patent, col. 13, lines 18-21. Based upon the above statements in the prosecution history, AccuScan explicitly disclaimed coverage of any device performing the mathematical calculation yielding $V_O$ by something other than a divide circuit. This disclaimer applies equally to the "divided by" language of claim 1 and the "quotient" language of claim 17. A quotient is a number resulting from the division of one number by another, and the clause of claim 17 which contains the "quotient" language clearly refers to the mathematical function resulting in the "third output signal" corresponding to $V_O$.

It is uncontested that the accused DocuTech publishing system performs the mathematical calculation yielding $V_O$ by multiplying by a reciprocal instead of using a divide circuit. Furthermore, it is uncontested that the 5775 copier

performs this calculation by subtracting logarithmic values. AccuScan argues that a signal representative of a division or a signal representative of a quotient may be obtained by multiplication of a reciprocal — as is done in Xerox's DocuTech system — or by subtracting logarithmic values — as is done in Xerox's 5775 copier. Certainly, this is mathematically correct. Under different circumstances, it would be entirely possible to determine that a divide function could encompass multiplication by a reciprocal or logarithmic subtraction, either literally or under the doctrine of equivalents. In the present case, however, AccuScan explicitly disclaimed such an interpretation during prosecution. Therefore, there can be no infringement of either claim 1 or claim 17 with respect to either the DocuTech publishing system or the 5775 copier.

However, the record with regard to the SA-4 scanner and the 7117/20/21 facsimile machines is not as clear. Both of these machines utilize digital circuits, as opposed to the analog ABC circuit of the '144 patent. The evidence and testimony presented regarding these two products is simply not sufficient for this court to determine whether or not the SA-4 scanner and the 7117/20/21 facsimile machines "divide" to obtain $V_o$ or perform some other mathematical function. Thus, we consider a second aspect of the claim construction.

Xerox also argues that its four products cannot infringe under a correct claim construction because AccuScan specifically argued during prosecution that the claims did not cover circuits that do not store and hold a white sample during the entire scan of the document, and do not continually combine the input signal with the black and white samples during the entire scan of the

document. The prosecuting attorney characterized the invention of the '144 patent as performing the following:

> In response to the second sampling signal, the ABC unit stores in the input capacitor of a second operational amplifier a second sample of the video input signal corresponding to the white shade or value of the calibration strip being scanned. Thus, at the completion of the calibration scan separate black and white representing samples of the input video signal are held stored in the input capacitors of their respective operational amplifiers, which produce corresponding output voltage signals $V_b$ and $V_w$ representative of the voltage magnitudes of the black and white samples.

The prosecuting attorney distinguished the Krallinger reference from the invention of the '144 patent by describing Krallinger in the following manner:

> The immediately following white signal is not sampled or stored but instead, because of its appearance immediately following the black signal, is used in a servo operation to vary the gain of the controllable amplifier so that the amplified white signal is equal to a preset reference voltage $V_r$. This amplification or gain level once obtained, is held throughout the complete line by the cumulative charge stored in an error capacitor 52 which represents the cumulative level of the error signals produced in the slewing operations of the gain control servo of the amplifier. Capacitor 52 is a storage element but it

> does not store a sample of the white signal, and, moreover, a sample of the white signal is not stored at any place or position in the Krallinger, et al. circuit.

Thus, during prosecution of the '144 patent, AccuScan repeatedly emphasized the importance of storing a sample of the white signal. Furthermore, AccuScan distinguished the '144 patent over other devices which did not store a sample of the white signal. Although Krallinger does use the white sample signal to create a related value which is then stored, the prosecution history makes it clear that such a mathematically related value is not equivalent to the '144 patent's storage of a separate white sample signal.

The prosecution history of the '144 patent also makes it clear that a distinguishing feature of the '144 patent is the continual storage and continuous use of the separately stored black and white samples throughout the scanning of an entire document. Such continuous storage and usage statements were made repeatedly by the prosecuting attorney, including:

> It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the *continual storage* of the separate black and white samples *throughout* the subsequent scanning and transmission of a document, and by the *continuous use* during such period of the *separately stored* black and white samples to *continuously* correct the video signal received during the scanning of the document. (emphasis added).

When interpreted in light of these statements, both claim 1 and claim 17 require continuous "storing" of the $V_w$ value in its pure form, and continuous "combining" of this value throughout the scanning of the document.

The diagrams of the operation of the Xerox devices created by AccuScan make it clear that the four different Xerox product lines at issue only temporarily store the white sample $V_w$ in its pure form. These four illustrative diagrams all show that $V_w$ is stored only temporarily before being converted to the difference value ($V_w$ - $V_b$). There is no dispute that this is a correct characterization of the accused Xerox products. Because $V_w$ in its pure form is stored only temporarily, it cannot be used continuously as required by the '144 patent claims as interpreted in light of the prosecution history.

For purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 234 F.3d 558, 564, 56 USPQ2d 1865, 1869 (Fed. Cir. 2000); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 USPQ2d 1018, 1024-25 (Fed. Cir. 1993). Thus, none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the '144 patent either literally or under the doctrine of equivalents.

*Appendix C*

III

Xerox counterclaimed that the '144 patent was invalid pursuant to 35 U.S.C. § 102(b) under two different theories: anticipation and the on-sale bar. We address each of these theories in turn.

A

Xerox alleges that the '144 patent is anticipated by an IBM Technical Disclosure Bulletin by D.P. Swart entitled "Contrast Amplifier," Vol. 14, No. 3 (August 1971) 883-84 ("the IBM reference"). In order to anticipate a claim, a prior art reference must disclose every element of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999). Anticipation is a factual question, and a jury verdict regarding anticipation is reviewed after trial for substantial evidence. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 544, 48 USPQ2d 1321, 1328 (Fed. Cir. 1998). At trial, the jury in this case ruled that the '144 patent was not anticipated by the IBM reference, and the district court held that substantial evidence supported this jury verdict. We agree.

The IBM reference discloses a contrast amplifier circuit, which operates using the principle:

$$(V_w - V_S) / (V_w - V_b)$$

This equation differs from the "Kolker equation" as used in the '144 patent in that the black sample $V_b$ is not used as the first sample. In order to show that the IBM reference is anticipatory, Xerox must show that the district court's claim

construction for the '144 patent requiring the first sample stored to be the black sample is erroneous. The relevant portion of claim 1 states:

> A. *means for storing a first sample* of said input signal when said input parameter is at its first magnitude;
>
> B. *means for storing a second sample* of said input signal when said input parameter is at its second magnitude;

'144 patent, col. 18, lines 62-66.

Xerox concedes that the preferred embodiment disclosed in the '144 patent specification stores black as the first sample $V_b$ and white as the second sample $V_w$, but relies upon the rule that the claims are not limited to the disclosed embodiments. *See Tate Access Floors, Inc. v. Maxcess Techs., Inc.*, 222 F.3d 958, 966, 55 USPQ2d 1513, 1518 (Fed. Cir. 2000). However, this analysis ignores the means-plus-function aspect of these two phrases. Claims that invoke a means-plus-function analysis under 35 U.S.C. § 112, ¶ 6 are held to only encompass "all structure in the specification corresponding to that element and equivalent structures." *Micro Chem., Inc. v. Great Plains Chem. Co. Inc.*, 194 F.3d 1250, 1258, 52 USPQ2d 1258, 1263 (Fed. Cir. 1999).

Claim 1 recites "means for storing a first sample" (clause A) and "means for storing a second sample" (clause B). This language clearly invokes a means-plus-function analysis. Xerox argues that the means-plus-function analysis applies only

to the "means for storing" language and does not relate to the "first sample" and "second sample" language of claim 1. It is true that "[s]ection 112, ¶ 6 does not limit all terms in a means-plus-function . . . clause to what is disclosed in the written description. . . ." *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1432, 54 USPQ2d 1129, 1135 (Fed. Cir. 2000). However, in the present case, it is not possible to distinguish between the "means for storing" embodiments in the written description of the '144 patent without considering either the first or second sample language as an integral part of these phrases.

The prosecution history also limits the '144 patent to storing a black sample first and a white sample second. The prosecuting attorney described the invention of the '144 patent as operating to:

> produce a first sampling signal when the ramp voltage reaches a predetermined magnitude corresponding to the scanning of the black area of the calibration strip and produces a second sampling signal when the ramp voltage reaches a second predetermined magnitude corresponding to the scanning of the white area of the calibration strip.

The prosecution history also explicitly describes the invention of the '144 patent as operating using the Kolker equation. Thus, during prosecution AccuScan surrendered coverage of a circuit operating in a manner different from the Kolker equation. For this reason, claim 17 is also limited to the Kolker equation and is not anticipated by the IBM reference.

*Appendix C*

Every embodiment and example disclosed in the patent, as well as the prosecution history, involves storing a black sample first and a white sample second, and the district court correctly construed the claims to cover only this scenario. Thus, the '144 claims cover only the Kolker equation disclosed in the '144 patent, which clearly differs from the equation disclosed in the IBM reference. Xerox advances no other argument (including any argument based upon equivalency of structure) aside from claim construction to refute the jury verdict. Substantial evidence supports the jury's verdict that the IBM reference does not anticipate the '144 patent.

B

Xerox also argues that the '144 patent is invalid because the invention was allegedly offered for sale by AccuScan more than one year prior to the date of application for the '144 patent. 35 U.S.C. § 102(b) (1994). Under *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 66-68 (1998), the old "substantially complete" standard for determining whether the on-sale bar has been triggered has been streamlined and modernized to a two-prong test: 1) whether the patented invention was the subject of a commercial offer for sale, and 2) whether the patented invention was "ready for patenting" prior to the critical date. Although the ultimate determination of invalidity due to application of the on-sale bar is a question of law, the facts underlying satisfaction of both of these conditions are issues of fact. *Monon Corp. v. Stoughton Trailers, Inc.*, 239 F.3d 1253, 1257, 57 USPQ2d 1699, 1702-03 (Fed. Cir. 2001).

*Appendix C*

Due to the intervening change in the law under *Pfaff* regarding the on-sale bar, the issue of whether the invention of the '144 patent was on sale prior to the critical date was tried to the jury on two separate occasions, and in both trials the jury ruled that the '144 patent was not invalidated by the on-sale bar. The district court twice upheld the jury verdict as supported by substantial evidence. However, the district court's first opinion upheld the jury verdict under the rationale that because the sale at issue was entitled a "Research and Development Contract," it did not qualify as a real sale. *AccuScan, Inc. v. Xerox Corp.*, 96 Civ. 2579 at 6-7 (S.D.N.Y. Sept. 11, 1998). *Zacharin v. United States*, 213 F.3d 1366, 1370, 55 USPQ2d 1047, 1050 (Fed. Cir. 2000), states: "[t]he fact that the sale in question was made in the context of a research and development contract and that there was no fixed price set for the [products] does not suffice to avoid the on-sale bar." Therefore, the district court's ruling on this point was legally incorrect. The district court's second ruling on the on-sale bar issue again affirmed the jury verdict as supported by ample evidence, but did not explain this ruling by pointing out the evidence which was relied upon. *AccuScan, Inc., v. Xerox Corp.*, 96 Civ. 2579 at 3 (S.D.N.Y. Mar. 15, 2000). Thus, for clarity we will briefly outline the points of evidentiary contention.

The application which matured into the '144 patent was filed on October 2, 1974, with Ray Kolker being the sole named inventor. Testimony from Mr. Kolker validated a detailed schematic of the ABC circuit dated February 28, 1972, as "the electrical schematic of my invention." Thus, the evidence supports a finding that the invention of the '144 patent was "ready for patenting" prior to the critical date.

*Appendix C*

The second part of the on-sale test is the occurrence of a commercial offer for sale, which is the critical prong of the test in the present case. AccuScan submitted a proposal to the California Crime Technological Research Foundation ("CCTRF") in January 1973, which appears to qualify as an offer for sale. However, at trial, AccuScan presented evidence suggesting that the subject matter contained in the CCTRF proposal was not the Kolker ABC circuit invention of the '144 patent, but rather was an alternative design developed by Xerox witness Robert LaFond. The subject matter of the commercial offer for sale must "be something within the scope of the claims," and therefore the use of this alternative design would indicate that the invention of the '144 patent was not part of the CCTRF offer for sale. *Scaltech Inc. v. Retec*, 178 F.3d 1378, 1383, 51 USPQ2d 1055, 1058 (Fed. Cir. 1999).

Xerox disputes that any alternative design from Mr. LaFond ever existed, and presented testimony to that effect. Overall, the testimony presented at trial is conflicting. The CCTRF proposal lists Mr. LaFond and Mr. Dobrin (VP of Phonapix, the predecessor to AccuScan) as responsible for the program, but makes no mention of Mr. Kolker. Mr. LaFond testified that the CCTRF proposal did contain the Kolker ABC circuit of the '144 patent. However, Mr. LaFond also admitted that the CCTRF proposal schematic attachment did not contain a block diagram labeled "ABC circuit." Mr. Dobrin said that Mr. LaFond did have an alternative circuit, but Mr. Dobrin did not know many details about what went into the Phonapix Fax machines that were the subject of the CCTRF proposal. Mr. Kolker testified that the CCTRF proposal "absolutely does not" describe his invention of the '144 patent.

*Appendix C*

Credibility determinations and the weighing of evidence are jury functions. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Although there was some conflicting evidence presented, the jury *twice* found that the weight of the evidence favored AccuScan. On appeal, we find that substantial evidence exists to support the jury's verdict. Therefore, the '144 patent has not been shown to be invalid pursuant to the on-sale bar.

V

The district court's denial of Xerox's motion for JMOL of noninfringement is reversed. The district court's denial of Xerox's motion for JMOL of invalidity pursuant to 35 U.S.C. § 102(b) is affirmed. Our ruling regarding noninfringement renders the additional issues in the case moot.

COSTS

No costs.

## APPENDIX D — OPINION AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK DATED MARCH 14, 2000 AND FILED MARCH 15, 2000

**UNITED STATES DISTRICT COURT**
**SOUTHERN DISTRICT OF NEW YORK**

**96 Civ. 2579 (HB)**

**ACCUSCAN, INC.,**

**Plaintiff,**

**– against –**

**XEROX CORP.,**

**Defendant.**

### OPINION AND ORDER

**Hon. Harold Baer, Jr., District Judge:**

The jury rendered a verdict in this patent case on October 25, 1999 in favor of plaintiff AccuScan, Inc. ("AccuScan") for $9,716,379 after a second trial devoted to damages, and the issues of notice and the "on sale" bar. Xerox now moves pursuant to Rule 50(b) for judgment as a matter of law or, alternatively, requests a new trial pursuant to Rule 59. AccuScan moves pursuant to Rule 50(b) for the entry of prejudgment interest, and also seeks the taxation of costs against the defendant.

*Appendix D*

For the reasons stated below, Xerox's motion for judgment as a matter of law or for a new trial is DENIED. Further, AccuScan is awarded prejudgment interest in the amount of $4,689,544.16, and is awarded costs in the amount of $45,874.83. The facts of this action are set out at length in my prior decisions and familiarity is assumed.

## DISCUSSION

### I. XEROX'S MOTION FOR JUDGMENT AS A MATTER OF LAW OR, ALTERNATIVELY, FOR A NEW TRIAL

Pursuant to Fed. R. Civ. P. 50(b), a court should only grant a motion for judgment as a matter of law when: (1) there is "such a complete absence of evidence supporting the verdict that the jury's findings could only have resulted from sheer surmise and conjecture," or (2) there is such an "overwhelming amount of evidence in favor of the movant that reasonable and fair minded" people could not have reached a verdict against moving party. *Samuels v. Air Transport Local 504*, 992 F.2d 12, 14 (2d Cir. 1993) (internal citations omitted). The Court "must consider all the evidence in a light most favorable to the non-mover, must draw reasonable inferences favorable to the non-mover, and must not substitute its choice for that of the jury between conflicting elements in the evidence." *Ortho Diagnostic Systems, Inc. v. Miles Inc.*, 865 F. Supp. 1073, 1078 (S.D.N.Y. 1994), *appeal dismissed*, 48 F.3d 1237 (Fed. Cir. 1995). Federal Rule of Civil Procedure 59 governs the decision whether to grant a new trial, a decision which is "committed

to the sound discretion of the trial judge." *Metromedia Co. v. Fugazy*, 983 F.2d 350, 363 (2d Cir. 1992), *cert. denied*, 508 U.S. 952 (1993). The power of a district court to grant a new trial based on the weight of the evidence is limited to instances where the jury's verdict can be seen as "seriously erroneous," *Piesco v. Koch*, 12 F.3d 332, 344 (2d Cir. 1993), or the verdict "is a miscarriage of justice." *Purnell v. Lord*, 952 F.2d 679, 686 (2d Cir. 1992) (citation omitted).

Xerox claims that it is entitled to judgment as a matter of law on the issues of actual notice, damages, and the patent's invalidity (the "on sale" bar). It argues that no reasonable jury could have concluded that AccuScan provided actual notice of infringement with regard to the SA4 scanner, 5775 color copier, and DocuTech system; that no reasonable jury could have concluded that AccuScan was entitled to damages based on the entire market value rule; and that no reasonable jury could have concluded that the patented invention was valid, because it was "on sale" one year prior to the actual date of filing the patent application and that the patent was ready for patenting. Further, Xerox seeks a new trial on the ground that this Court abused its discretion in limiting certain testimony at trial.

A judgment as a matter of law for the defendant in this case would be a miscarriage of justice. There is ample evidence to support the jury's verdict, and the test, i.e. that there be an "overwhelming amount of evidence" in favor of Xerox, was just not met. The jury was presented with evidence by both sides on each issue and, in my humble opinion, did precisely what is was supposed to do. It weighed

the evidence and assessed the credibility, and Xerox came up short. Therefore, Xerox's motion for judgment as a matter of law is denied.

In addition, Xerox's Rule 59 motion is misguided. The excluded testimony was the subject of a motion *in limine*, and was addressed at length before and during trial. Xerox has presented nothing new in its post-trial motion to convince me that ruling was "seriously erroneous" and resulted in a "miscarriage of justice." Because a party cannot use Rule 59 as way of rearguing claims raised at trial, *see Sassower v. Field*, 973 F.2d 75, 81 (2d Cir. 1992) (affirming denial of motion for new trial where motion was mere reargument of claims made at trial), *cert. denied*, 507 U.S. 1043 (1993), Xerox's motion for a new trial is denied.

## II. PREJUDGMENT INTEREST

AccuScan moves this Court to modify the judgment entered to reflect an award of prejudgment interest. While Xerox agrees that AccuScan is entitled to prejudgment interest, the parties dispute the rate at which interest is to be awarded. AccuScan seeks prejudgment interest to be awarded based on the prime rate, compounded quarterly, which yields a total of $7,373,979.00.[1] In contrast, Xerox claims that prejudgment interest should be based on the 52-week Treasury Bill rate, compounded annually, which yields a total of $4,689,544.16.

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1. In its motion for prejudgment interest, Accuscan's memorandum states that it seeks a total amount of $7,379,979.00, yet its proposed order states a total amount of $7,381,567.00.

*Appendix D*

An award of prejudgment interest aims to place the patent owner "in as good a position as [it] would have been in had the infringer entered into a reasonable royalty agreement." *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655-56 (1983). The determination of the rate at which prejudgment interest is awarded is left to the sound discretion of the trial court. *See Laitrim Corp. v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997); *Gyromat Corp. v. Champion Spark Plug Corp.*, 735 F.2d 549, 556 (Fed. Cir. 1984) (court has "substantial discretion" to determine the interest rate).

Here, a review of the record establishes that prejudgment interest awarded at the 52-week Treasury Bill rate, compounded annually, will adequately compensate AccuScan. This is the same rate set forth for awards of post-judgment interest, *see* 28 U.S.C. § 1961, and has often been employed by the Federal Circuit and other courts in awarding prejudgment interest in patent cases. *See, e.g.*, *Laitrim Corp.*, 115 F.3d at 955 (prejudgment interest at Treasury bill rate, compounded annually); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 829 (Fed. Cir. 1989) (affirmed interest awarded at rate set forth in § 1961); *Intex Plastic Sales Co. v. Hall*, 20 USPQ2d 1367, 1371 (N.D. Cal. 1991) (interest awarded at rate set forth in § 1961, where applying higher rate was " 'too speculative"), *aff'd*, 960 F.2d 155 (Fed. Cir. 1992); *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ2d 1481, 1541 (D. Mass. 1990) (interest awarded at Treasury Bill rate, compounded annually, where evidence failed to justify higher rate). AccuScan's arguments fail to convince me that the prime rate should be utilized, nor does the evidence warrant the application of that rate. Accordingly, prejudgment interest is awarded to AccuScan based on the 52-week Treasury Bill rate, compounded annually, in the amount of $4,689,544.16.

*Appendix D*

## III. TAXATION OF COSTS

The Judgment Clerk for the Southern District of New York awarded costs to AccuScan in the amount of $45,874.83 on December 10, 1999. Xerox objects to the taxation of costs for certain deposition transcripts and related witness fees, and seeks a reduction in costs of $10,704.37.[2] According to Xerox, these costs were not reasonably and necessarily incurred by AccuScan in presenting its case at trial, and should therefore be stricken.

The decision on taxation of costs is left solely to the discretion of the trial judge. *LoSacco v. City of Middletown*, 71 F.3d 88, 92 (2d Cir. 1995) (citing *Farmer v. Arabian Oil Co.*, 379 U.S. 227, 232-233 (1964)). The prevailing party has the burden of establishing that the taxation of costs is justified. *John and Kathryn G v. Board of Educ. of Mount Vernon Public Schools*, 891 F. Supp. 122, 123 (S.D.N.Y. 1995). With respect to deposition transcripts, Local Rule 54.1(c)(2) reads in pertinent part:

> Unless otherwise ordered by the court, the original transcript of a deposition, plus one copy, is taxable if the deposition was used or received in evidence at the trial, whether or not it was read in its entirety. Costs for depositions are also taxable if they were used by the court in ruling on a motion for summary judgment or other dispositive substantive motion.

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2. Specifically, these depositions were: Leonard Zuckerman, Peter Miller, David Haas, Charles Jacobson, Roy Lahr, Robert Yerman, Carl Kolker, George Stamps, and Robert Krallinger.

Xerox argues that several of the deposition transcripts taxed were never "used" at trial by AccuScan in presenting its case, but were used solely by the parties for impeachment purposes or merely referred to during questioning. Further, Xerox objects to certain other transcripts taxed, which were cited by Xerox in its Statement of Undisputed Facts as part of its summary judgment motion, but which were not cited by this Court in its order denying summary judgment.

In this Circuit, a deposition transcript may be taxed when it appears to be reasonably necessary to the parties at the time taken. *See DeHoust v. Baxter Healthcare Corp.*, 1999 WL 280423 (S.D.N.Y. 1999) (costs of transcripts allowed because depositions appeared to be reasonably necessary at time taken); *United States Football League v. National Football League*, 704 F. Supp. 474, 487 (S.D.N.Y. 1989). Here, AccuScan has established that the depositions taxed were used for purposes of impeachment at trial and for use with other witnesses who testified. Therefore, these depositions were "reasonably necessary" to AccuScan, and costs for those transcripts were properly taxed. Finally, depositions are considered "used" if they were submitted as part of a summary judgment motion and considered by the Court in reaching its decision, even if they are not cited by the Court. *See Walther v. Maricopa Int'l Inv. Corp.*, 1999 WL 816176, *2 (S.D.N.Y. 1999). Therefore, costs taxed for deposition transcripts utilized in the motion for summary judgment were also properly taxed. Accordingly, AccuScan is entitled to the full amount of $45,874.83 taxed as costs.

*Appendix D*

## CONCLUSION

For the foregoing reasons, Xerox's motion for judgment as a matter of law or, alternatively, for a new trial is DENIED. AccuScan is awarded prejudgment interest in the amount of $4,689,544.16, and is further awarded costs in the amount of $45,874.83. The Clerk of the Court is instructed to close this case.

**SO ORDERED.**

New York, New York
March 14, 2000

s/ Harold Baer, Jr.
U.S.D.J.

**APPENDIX E — OPINION AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK DATED SEPTEMBER 10, 1998 AND FILED SEPTEMBER 11, 1998**

**UNITED STATES DISTRICT COURT**
**SOUTHERN DISTRICT OF NEW YORK**

**96 Civ. 2579 (HB)**

**ACCUSCAN, INC.,**

**Plaintiff,**

**– against –**

**XEROX CORP.,**

**Defendant.**

**OPINION AND ORDER**

**Hon. Harold Baer, Jr., District Judge:**

Following a trial in this patent infringement action, the jury rendered a verdict on April 1, 1998, in favor of plaintiff AccuScan, Inc. ("AccuScan") for $40 million. The jury concluded: (1) that several products of defendant Xerox Corporation ("Xerox"), specifically, the Docutech, the 5775 color copier, the SA4 Scanner and the 7017/7020/7021 facsimile machines, infringed claims 1 and 17 of U.S. Patent No. 3,952,144 ("the '144 patent"); and (2) that the '144 patent

was valid.[1] The jury also concluded that Xerox had not willfully infringed the '144 patent.

Xerox now moves, pursuant to Fed. R. Civ. P. 50(b) for judgment as a matter of law that none of the accused Xerox products infringe the '144 patent and that the asserted claims are invalid, or, in the alternative, for a new trial under Fed. R. Civ. P. 50(c) and 59. Xerox also moves for judgment as a matter of law under Rule 50(b) with respect to the jury's $40 million damages award, and requests a new trial on damages pursuant to Rules 50(c) and 59. AccuScan moves pursuant to Rule 50(b) for entry of judgment as a matter of law that Xerox's infringement of the '144 patent was willful. For the reasons set forth below, Xerox's motion for judgment of non-infringement or invalidity or for a new trial on the issue of liability is DENIED, Xerox's motion for a new trial on the issue of damages is GRANTED and AccuScan's motion for entry of a judgment of willfulness is DENIED.

## BACKGROUND

In this action, AccuScan accused Xerox's products of infringing claims 1 and 17 of its '144 patent. AccuScan was started as a small company in about 1971, which was then known as Phonapix. Peter Heller, the President of AccuScan, was one of the original investors in AccuScan. (Tr. 278). The '144 patent relates to the calibration of electric signals in products like facsimile machines, scanners and digital

1. The jury also rendered an advisory verdict with respect to Xerox's defense of laches; by Order and Opinion dated May 26, 1998 I found, in accord with the jury's advisory verdict, that Xerox had failed to establish its defense of laches.

copiers. It issued on April 20, 1976, listing Carl Kolker as the sole inventor. Kolker was hired by AccuScan in about July of 1971, but is no longer employed by AccuScan. (Tr. 57). Kolker's invention allows the accurate reproduction of grey scale images, *i.e.*, images that not only contain black and white information, such as the alphanumeric information that might appear in a letter, but also images that have continuous shades from black to white, such as might be found in a photograph. The '144 patent describes a device and method for adjusting an input signal to correct for undesired variations.

The specific system described in the '144 patent consists of circuitry, which makes a preliminary calibrating scan of a black area and a white area, and stores the signal corresponding to the black area ($V_b$) and the signal corresponding to the white area ($V_w$). When the document is scanned, the circuitry subtracts the value $V_b$ from the input signal ($V_{in}$) to remove any offset values, and divides this difference by the difference between the two signals $V_w$ and $V_b$ to ensure that the output signal $V_o$ varies between 0 and 1. The result is defined by the following equation, $V_o = (V_{in} - V_b)/(V_w - V_b)$.

## DISCUSSION

I. *Legal Standard for Judgment as a Matter of Law*

Federal Rule of Civil Procedure 50(a) provides:

> If during a trial by jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for

> that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.

In deciding whether judgment as a matter of law is warranted, the question is "whether the evidence is such that, without weighing the credibility of witnesses or otherwise considering the weight of the evidence, there can be but one conclusion as to the verdict that reasonable [people] could have reached." *Mallis v. Bankers Trust Co.*, 717 F.2d 683, 688 (2d Cir. 1983) (quoting *Mattivi v. South African Marine Corp., Huguenot*, 618 F.2d 163, 167 (2d Cir. 1980)). The trial court should grant judgment as a matter of law only when: (1) there is such a complete absence of evidence supporting the verdict that the jury's findings could only have been the result of sheer surmise and conjecture, or (2) there is such an overwhelming amount of evidence in favor of the movant that reasonable and fair minded people could not arrive at a verdict against the movant. *See Lambert v. Genesee Hosp.*, 10 F.3d 46, 56 (2d Cir. 1993), *cert. denied*, 511 U.S. 1052 (1994). On a motion for judgment as a matter of law, the trial court must "consider all the evidence in a light most favorable to the non-mover, must draw reasonable inferences favorable to the non-mover, must not determine credibility of witnesses, and must not substitute its choice for that of the jury between conflicting elements in the evidence." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir.), *cert. denied*, 469 U.S. 857 (1984).

*Appendix E*

II. *Infringement*

In deciding whether an accused device infringes a patent, the scope of the patent claims, which is strictly a legal issue, must be determined. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384-91 (1996). Once the Court construes the claims of the patents, which here was done in large measure with the assistance of an independent expert chosen by the parties, the issue of infringement is a factual issue for the jury. *SRI Int'l v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1125 (Fed. Cir. 1985) (*in banc*). A patent can be infringed in two ways — literally or under the doctrine of equivalents. Literal infringement requires that each feature of the patent claim is found in the accused device. *See Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1563 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1818 (1997). Infringement under the doctrine of equivalents can be found only if the accused device contains elements identical or equivalent to each claimed element of the patented invention. *See id.* at 1566.

Xerox argues that a reasonable jury could not have concluded that the Docutech, the 5775 color copier, the SA4 Scanner and the 7017/7020/7021 facsimile machines infringe claims 1 and 17 of AccuScan's patent literally or under the doctrine of equivalents. Upon consideration of Xerox's arguments, I disagree. There was competent evidence in the record as testified to by AccuScan's expert Leonard Zuckerman ("Zuckerman") that Xerox's Docutech contains each element of claims 1 and 17 of the '144 patent or the equivalent, as construed by this Court. (Tr. 128-141). Zuckerman also testified that Xerox's 5775 copier,

SA4 scanner and 7017/20/21 facsimile machines each contain every element of claims 1 and 17 of the '144 patent or the equivalent. (Tr. 148-163, 172-183, 163-174). Moreover, Xerox's in-house attorney stated, in an internal memorandum that, in reviewing the '144 patent, claims 1 and 17, among others, "appear to potentially read on applications of the invention to digital systems, similar to those found in document scanners and current facsimile products." (PTX 152). Although Xerox's expert testified that the accused products do not infringe claims 1 and 17 of the '144 patent as construed by this Court (Tr. 624, 633-665), it is the jury's province to weigh this conflicting evidence. Viewing all the evidence in the light most favorable to AccuScan and drawing reasonable inferences favorable to AccuScan, as I must in the context of this motion, I find that there was substantial evidence to support the jury's verdict on the issue of infringement.

III. *Validity*

*A. On Sale Bar*

Xerox also challenges the jury's finding that the '144 patent is not invalid under the "on sale" bar of 35 U.S.C. § 102(b). Because patents are presumed to be valid, Xerox has the burden of proving that the '144 patent is invalid by clear and convincing evidence. *Buildex Inc. v. Kason Industries, Inc.*, 849 F.2d 1461, 1463 (Fed. Cir. 1988). Section 102(b) provides that an inventor is not entitled to a patent if "the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States," which is known as the critical date. In order

for an invention to be "on sale" within the meaning of § 102(b), there must be a definite sale or offer for sale of the claimed invention prior to the critical date. *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1433 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998). Although the issue of whether an invention is "on sale" within the meaning of § 102(b) is ultimately a question of law, this issue involves underlying questions of fact. *See Pfaff*, 124 F.3d at 1432; *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544, 549 (Fed. Cir. 1990).

Here, the '144 patent was filed on October 2, 1974 and thus activities before October 2, 1973 can give rise to an on sale bar. Xerox argues that two events prior to this date constituted placing the patented invention "on sale." First, Xerox points to AccuScan's response to a request for proposal by the California Crime Technology Research Foundation ("CCTRF") in January 1973. Second, Xerox argues that AccuScan offered to sell the patented technology at a meeting that was held in August 1973 between AccuScan and Xerox. AccuScan contends that a reasonable jury could have found that the invention was not placed "on sale" within the meaning of section 102(b) in either instance because AccuScan was merely engaging in developmental and testing activities. *See Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1269-70 (Fed. Cir. 1991) (on sale bar does not arise where an inventor is merely engaging in developmental and testing activities, even where intended customer was participating in development and testing); *see also Great Northern Corp. v. Davis Core & Pad Co., Inc.*, 782 F.2d 159, 165 (Fed. Cir. 1986); *Poole v. Mossinghoff*, 214 U.S.P.Q. 506, 508-09 (D.D.C. 1982).

Upon a review of the evidence, I find that a reasonable jury could have found that Xerox failed to meet its burden of proving by clear and convincing evidence that the patented invention was placed "on sale" prior to the critical date. First, the '144 patent was never sold at any time. (Tr. 757, 770). Moreover, with respect to the CCTRF proposal, in January 1973, AccuScan (then known as Phonapix) responded to a request for proposal by CCTRF, which sought a system that would transmit fingerprints. The proposal for this project indicated that it was a "developmental program." (DTX GT at A001831). Indeed, the project was described in the proposal as "Develop and Test Prototype Systems For Improved Method of Fingerprint Transmission." (DTX GT at A001835). Although Xerox's witness, Robert LaFond, a former Phonapix employee, testified that the purpose of the CCTRF proposal was to solicit business and that the Kolker invention was working at this time (Tr. 755-56), it is the jury's role to make credibility determinations and weigh conflicting evidence, in concert with the high burden of proof required to prove invalidity.[2]

Similarly, on April 16, 1973, AccuScan (then known as Faxon) contacted Xerox by letter regarding its new product developments. This letter states that the project was an "R & D effort." (DTX HI). The parties then held meetings on August 2, 1973 and August 16, 1973. At the August 16 meeting, Faxon representatives demonstrated a breadboard of its 811 facsimile machine, which included the Kolker

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2. Moreover, there was some question as to whether the Kolker invention was even involved in the CCTRF proposal since the prospectus did not identify Kolker as one of the individuals involved in the project. (*See* DTX GT).

circuit. The report of Xerox witness Charles Jacobson dated August 20, 1973, indicated that the model viewed "was at a relatively early stage of development, certainly no farther advanced than an engineering model" and according to plaintiff, it was hardly saleable. (DTX JZ; *see also* Tr. 464-65). Moreover, a memorandum prepared by Faxon representative John Ransom indicated that one of Faxon's objectives was to obtain "[a]dequate funding to bring the 811 to the point of product announcement." (DTX H). Similarly, Kolker testified that the purpose of the meetings with Xerox was to have Xerox enter into a research and developmental program with Faxon. He further testified that AccuScan did not offer to sell products to Xerox, as there was "nothing to sell." (Tr. 79, 83-84, 103). Although prices were discussed between Xerox and AccuScan, the "on sale" bar does not arise simply because prices and quantities were discussed. *Continental Can*, 948 F.2d at 1270. Accordingly, there was substantial evidence to support the jury's finding that the patent was not invalid under the "on sale" bar.[3]

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3. Xerox argues that although the 811 machine may have been in the developmental stages in August 1973, the Kolker circuit had already been shown to work for its intended purpose at this time, and thus the experimental use exception to the on-sale bar does not apply. *See RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1061 (Fed. Cir. 1989) (an offer to sell A, a device reduced to practice, in combination with B, the combination not having been reduced to practice is not an experimental use of A). However, there was evidence in the record (*See* Tr. 80-81, 95-96) from which a jury could conclude that the Kolker circuit was not yet reduced to practice, *i.e.*, it had not yet been satisfactorily tested to show that it would actually work for its intended purpose. *See Scott v. Finney*, 34 F.3d 1058, 1060-62 (Fed. Cir. 1994).

*Appendix E*

*B. Anticipation and Obviousness*

Xerox also challenges the jury's finding that the '144 patent is not invalid as anticipated by the prior art or as obvious. Under 35 U.S.C. § 102(e), an inventor cannot obtain a patent if "the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for the patent." Anticipation must be proven by clear and convincing evidence establishing that the subject matter of the claim is identically described in a single prior art reference. *See Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). Pursuant to 35 U.S.C. § 103, a patent claim that is not anticipated by the prior art may nevertheless be invalid if the invention set forth in the claim would have been obvious to a person of ordinary skill in the art at the time of invention. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1574 (Fed. Cir. 1986). Although obviousness is ultimately a question of law for the court, based on the factual underpinnings, a court may submit the ultimate legal question of obviousness to the jury, with proper instructions. *In re Hayes Microcomputer Prods., Inc. Patent Litig.*, 982 F.2d 1527, 1539 (Fed. Cir. 1992).

Xerox argues that four prior art references — the IBM Technical Disclosure Bulletin (the "IBM Bulletin") and U.S. Patents Nos. 3,800,078 (" '078 patent"), 3,800,079 (" '079 patent") and 3,962,681 (" '681 patent") — contain all of the features recited in claims 1 and 17 of the '144 patent. Alternatively, Xerox contends that claims 1 and 17 are obvious over the prior art. However, I find that a reasonable jury could have found that Xerox failed to meet its burden to

prove by clear and convincing evidence that the '144 was invalid as anticipated or obvious. At trial, Zuckerman testified that the IBM Bulletin differs from claims 1 and 17 of the '144 patent in that the references are not fixed before the input signal is processed.[4] (Tr. 862-63). In addition, Xerox's expert Ralph Grant ("Grant") testified at his deposition, which was read into evidence at trial, that these claims are valid in light of the IBM Bulletin.[5] (Tr. 693-94). Zuckerman also testified that the '144 patent is not obvious in light of the IBM Bulletin. (Tr. 860).

With respect to the '078 patent, Zuckerman testified that it differs from the '144 patent because in the '078 patent, there is no fixed white reference, but rather the white background area can vary. He also testified that there is nothing in the '078 patent that renders the '144 patent obvious. (Tr. 864). Further, Zuckerman testified that the '079 patent does not use the equation found in the Kolker patent and that it does not render the '144 patent obvious. (Tr. 865-866). Moreover, Grant testified at his deposition, which was

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4. Xerox challenges the significance of this difference; however, under 35 U.S.C. § 102, "every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter*, 116 F.3d at 1457. Moreover, the IBM Bulletin also differs from the '144 patent because the white and black samples are reversed; in the '144 patent, pursuant to this Court's claim construction, the first sample is black, whereas in the IBM Bulletin the first sample is white.

5. Although Grant changed his testimony at trial (as well as later in his deposition) and testified that the IBM Bulletin renders the patent invalid (Tr. 693-95), it is the jury's role to make credibility determinations and weigh the conflicting evidence.

read into evidence at trial, that neither the '078, the '079 or the '681 patent invalidate claims 1 and 17 of the '144 patent.[6] (Tr. 690-692).

Zuckerman also testified that all of the prior art references together do not make the '144 patent obvious to a person skilled in the art. (Tr. 862, 876). This testimony was corroborated by that of Grant, who testified at deposition that none of the above prior art references make obvious the claims of the '144 patent. (Tr. 692). The verdict of non-obviousness is also supported by the commercial success of the infringing products. (Tr. 860); *See Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026 (Fed. Cir. 1985) (secondary considerations relevant to determining obviousness include commercial success of infringing products). Accordingly, I find there was substantial evidence from which a reasonable jury could conclude that Xerox failed to meet its burden to prove by clear and convincing evidence that the '144 patent was invalid as anticipated by the prior art references or as obvious.

IV. *Motion for a New Trial on Liability*

A district court may grant a new trial only where the jury reached, "a seriously erroneous result" or where the verdict is a "miscarriage of justice." *Sorlucco v. New York City Police Dept.*, 971 F.2d 864, 875 (2d Cir. 1992). Because, as discussed above, I find that the jury's verdict of infringement and validity is supported by substantial

6. Grant's testimony in this regard again changed at trial (Tr. 690), but, as discussed above, it is in the jury's province to weigh conflicting testimony.

evidence, I decline to exercise this discretion here with respect to the issue of liability.[7]

V. *Damages*

*A. Adequacy of AccuScan's Proof*

Where, as here, infringement has been shown, the law provides that the owner of the patent is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284. The royalty must be based on an established royalty, if there is one. If not, the royalty should be based upon the supposed result of a hypothetical negotiation between the plaintiff and the defendant. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1554 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995). This hypothetical negotiation requires the fact-finder to "envision the terms of a licensing agreement reached as the result of a supposed meeting between the patentee and the infringer at the time infringement began." *Id.* For purposes of the hypothetical negotiation, the patent in suit is presumed valid and infringed. *Mobil Oil Corp. v. Amoco Chems. Corp.*, 915 F. Supp. 1333, 1352-53 (D. Del. 1994). Here, the parties agreed, and the jury was instructed that the time of the

7. Xerox argues that a new trial is warranted based on my ruling at trial to exclude from evidence an opinion written by a previous AccuScan attorney, Marcus Millet. (DTX AKT). I adhere to my prior determination that this memorandum was inadmissible hearsay. Moreover, even assuming this determination was erroneous, I am unable to conclude that the exclusion of this memorandum constituted prejudicial error such that a new trial is warranted.

hypothetical negotiation was September 1986, just before infringement began. In determining the royalty that would have been reached at this hypothetical negotiation, the factfinder is to consider a variety of evidentiary factors, which were set forth in detail in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970), *modified on other grounds*, 446 F.2d 295 (2d Cir.), *cert. denied*, 404 U.S. 870 (1971). The jury was charged that they should consider these factors in determining a reasonable royalty rate.[8]

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8. These factors are as follows: 1) the royalties received by the patentee for the licensing of the patent to others; 2) rates paid to license other patents comparable to the patent in suit; 3) the nature and scope of the license, as exclusive or nonexclusive, or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold; 4) the licensor's established policy and marketing program to maintain its patent's exclusivity by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that exclusivity; 5) the commercial relationship between licensor and licensee, such as whether they are competitors, in the same territory, in the same line of business, or whether they are inventor and promoter; 6) the effect of selling the patented product in promoting sales of other products of the licensee, the existing value of the invention to the licensor as a generator of sales of its non-patented items, and the extent of such derivative or collateral sales; 7) the duration of the patent and the term of the license; 8) the established profitability of the product made under the patent, its commercial success, and its current popularity; 9) the utility and advantages of the patented invention over the old modes or devices, if any, that had been used for working out similar results; 10) the nature of the patented invention, the character of the commercial embodiment of it as owned and produced by the licensor, and the benefits to those who have

(Cont'd)

Xerox argues that if the correct legal standard is applied, the record is devoid of any relevant evidence to support the jury's damage award of $40 million. I agree. AccuScan's damages expert, Dr. Marion Stewart, testified that a reasonable royalty here would be 12.5%; applying this rate to Xerox's revenues for the infringing products for the period April 11, 1990 through April 20, 1993, he calculated that AccuScan's damages from infringement were $203,296,018.[9] (Tr. 370-71). In reaching this conclusion, he applied the following methodology. First, he examined the revenues that Xerox had received from the Docutech system from its introduction in late 1990 through 1997 and its projected

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(Cont'd)
used the invention; 11) the extent to which the infringer has made use of the invention, and any evidence probative of the value of that use; 12) the portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions; 13) the portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer; 14) the opinion testimony of qualified experts; and 15) the amount that a licensor and a licensee would have agreed upon if both had reasonably and voluntarily been trying to reach an agreement. *Georgia-Pacific Corp.*, 318 F. Supp. at 1120.

9. The jury was instructed that the patent damages should be calculated from April 11, 1990 — six years preceding the filing of the complaint in this action — to the expiration of the patent, April 20, 1993. Dr. Stewart also testified that AccuScan's damages from October 1990 (the date previously determined by this Court to be when Xerox received actual notice of infringement, as discussed below) through April 1993 were $198,853,590 (Tr. 369).

future revenues and calculated that if Xerox had delayed the introduction of the Docutech until the expiration of the '144 patent, April 20, 1993, this delay would have cost Xerox $413 million. (Tr. 360-62). He then divided the $413 million by the actual revenues for the Docutech from late 1990 through the expiration of the '144 patent, $500 million, and calculated that the maximum royalty rate Xerox would have paid was 83%. (Tr. 359-69, 364-65). He further testified that 83% would not be a reasonable royalty because of the numerous additional features that are contained in the Docutech; he thus reduced this figure and arrived at a royalty rate of 12.5%. (Tr. 366-369).

There are several flaws in Dr. Stewart's analysis which render his damages estimate unsupportable under the existing law. First, Dr. Stewart did not employ the well-established analysis set forth in *Georgia-Pacific*. The case of *Georgia-Pacific* sets forth a comprehensive list of evidentiary factors relevant to the determination of a reasonable royalty, which have long been followed by other courts. *See, e.g., Unisplay, S.A. v. American Electronic Sign Co., Inc.*, 69 F.3d 512, 517 n.7 (Fed. Cir. 1995); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1077 (Fed. Cir. 1983); *Gargoyles, Inc. v. United States*, 37 Fed. Cl. 95 (Fed. Cl. 1997), *aff'd*, 113 F.3d 1572 (Fed. Cir. 1997). Of course, some of these factors may be of minimal or no relevance to a particular case, and other factors may have to be molded to fit the facts of the case at hand. *See Mobil Oil Corp.*, 915 F. Supp. at 1353. Moreover, the calculation of a reasonable royalty depends on the facts of each case. *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1579 (Fed. Cir. 1996). Nevertheless, Dr. Stewart's analysis was based almost exclusively on the actual revenues that

Xerox received from the Docutech product. While a royalty analysis need not mirror the *Georgia-Pacific* factors in every case, there is no support for Dr. Stewart's complete abandonment of this well-established methodology. Indeed, AccuScan fails to cite a single case approving of the methodology employed by Dr. Stewart.

Moreover, Dr. Stewart's analysis ignored, for the most part, the necessity to return to the date of infringement, here, September 1986. It is well established that in calculating a reasonable royalty, the hypothetical negotiation must take place on the date infringement began. *Unisplay*, 69 F.3d at 518; *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 870 (Fed. Cir. 1993). A reasonable royalty must "relate to the time infringement occurred, and not be an after-the-fact assessment." *Unisplay*, 69 F.3d at 518. As AccuScan points out, in determining a reasonable royalty based on a hypothetical negotiation, a trier of fact may nevertheless look at "events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators." *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1575 (Fed. Cir. 1988). As the Federal Circuit has explained, future events may be considered because where years have gone by after the issuance of the patent, "[e]xperience is then available to correct uncertain prophecy." However, "to correct uncertain prophecies in such circumstances is not to charge the offender with elements of value non-existent at the time of his offense. It is to bring out and expose to light the elements of value that were there from the beginning." *Fromson*, 853 F.2d at 1575 (quoting *Sinclair Ref. Co. v. Jenkins Petroleum Process Co.*, 289 U.S. 689, 698-99 (1933)). While future events may therefore be

considered, the analysis must, at the very least, be anchored with facts that existed at the time of infringement. *Alpex Computer Corp. v. Nintendo Co., Ltd.*, 34 U.S.P.Q.2d 1167, 1994 WL 681752, at *40 (S.D.N.Y. Dec. 5, 1994), *aff'd in part, rev'd in part on other grounds*, 102 F.3d 1214 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 2480 (1997).

Dr. Stewart's analysis failed to do so. His analysis neglected to incorporate most of the relevant facts that existed at the time of infringement. For example, he did not incorporate the fact that Xerox's facsimile sales were unprofitable at the time of the hypothetical negotiation and that the only infringing product that was marketed by Xerox in 1986 was the 7020 facsimile machine, nor did he incorporate the fact that in 1977, AccuScan had offered a $10,000 paid-in-full, non-exclusive license under the '144 patent (Tr. 392-96, 802-803). He also failed to account for the evidence that Xerox had already developed alternative grey-scale technology in 1986. (Tr. at 551-552). Instead, Dr. Stewart focused on Xerox's actual profits from the Docutech, from 1990 forward. In order to demonstrate that he nevertheless complied with the requirement of returning to the date of infringement for the hypothetical negotiation, Dr. Stewart explained that he assumed that the parties would have known in 1986 of the importance of the Docutech product. However, this product was not even introduced until 1990, four years later. There is therefore no basis for Dr. Stewart's sweeping assumption. AccuScan points to evidence that Xerox had begun working on the Docutech in 1983, and that in 1986, there was an oblique reference to the Docutech system in Xerox's 1986 annual statement. (Tr. 347-351; PTX 181). The fact that the parties would have known

of the planned future existence of the Docutech in 1986 does not mean that the hypothetical negotiators would have fully known its importance and future profitability.[10]

An additional flaw in AccuScan's model is that it also runs afoul of the "entire market value rule." This rule "allows for the recovery of damages based on the value of an entire apparatus including non-patented parts, even though only one of the features in the apparatus is patented." *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 865 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986). Such recovery is permitted only "when the patented feature is the basis for customer demand for the entire machine." *Fonar Corp. v.*

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10. At best, the evidence AccuScan points to may support the admissibility of the Docutech profits as one factor to be considered in arriving at a reasonable royalty. With respect to an infringer's actual profits, courts have stated that evidence of future events such as the infringer's actual profits can be admissible in determining a reasonable royalty. *See Fromson*, 853 F.2d at 1576; *Trans-World Manuf'g Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552, 1568 (Fed. Cir. 1984) (infringer's profits can be admissible as probative of one of the *Georgia-Pacific* factors, the infringer's anticipated profits, including the effect of the patent in promoting the success of other products of the infringer); *Alpex Computer Corp.*, 1994 WL 681752, at *40 (actual profits can be admissible as potentially probative of the expectation for the future that the hypothetical negotiators would have had as of the date of infringement). However, such evidence is entitled to minimal weight and must be considered among many factors. *See Fromson*, 853 F.2d at 1576 & n. 13; *see also Trans-World Manuf'g Corp.*, 750 F.2d at 1568). Accordingly, while arguably there is some support for the admission of Docutech's actual revenues as bearing on the reasonable royalty arrived at in the hypothetical negotiation, there is no basis for according it the type of weight that it was accorded in Dr. Stewart's model.

*General Electric Co.*, 107 F.3d 1543, 1552 (Fed. Cir.), *cert. denied*, 118 S. Ct. 266 (1977) (citing *Rite-Hite Corp. v. Kelley Co. Inc.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995)). Xerox argues that Dr. Stewart's incorporation of the entire value of revenues associated with the sale of the Docutech, which contains the Kolker invention as only one component, was improper because AccuScan failed to show that the Kolker invention formed the basis for customer demand for the entire Docutech product.

AccuScan contends that its damages base was not improperly inflated under this rule, because Dr. Stewart considered the numerous additional features contained in the Docutech in determining that a reasonable royalty rate should be 12.5%, rather that the 83% maximum royalty he had calculated. However, Dr. Stewart's reduction of the royalty rate from 83% to 12.5% was arbitrary and was not supported by any evidence in the record as to how this reduction corresponded with the proportion of the Docutech revenues that were derived from additional features, as opposed to from the Kolker invention. This arbitrariness was compounded by the fact that although the 12.5% royalty rate was calculated based on Docutech revenues, Dr. Stewart applied this same rate to the revenues from *all* infringing products — the Docutech, the 5775 color copier, SA4 scanner and the 7017/20/21 facsimile machines — in calculating AccuScan's damages, without any basis in the record for doing so. Moreover, merely because Dr. Stewart reduced the 83% maximum royalty rate does not make the royalty rate he arrived at, or indeed began with, acceptable. In other words, to simply reduce an improperly arrived at royalty rate arbitrarily, does not make the lower rate the proper royalty amount.

AccuScan also argues that, in any event, there was substantial evidence in the record from which a jury could conclude that the Kolker invention formed the basis for customer demand for the entire Docutech product. However, there is no evidence in the record that would support such a finding. As Dr. Stewart conceded, and Xerox's expert testified, the Docutech contains numerous other features and subcomponents. (Tr. 813-815). AccuScan points to evidence that the patented invention provided the best calibration method, and that the Docutech required such a method in order to produce a good quality image. (Tr. 836-37). This simply does not indicate that Xerox's use of the patented invention formed the basis for customer demand for the entire Docutech. *Cf. Fonar*, 107 F.3d at 1552 (where infringer's own literature regarding infringing product emphasized that the patented feature enhanced the infringing product's efficiency, a jury could conclude that the patented feature was the basis for customer demand for the entire product).

Finally, Dr. Stewart's analysis failed to comply with this Court's ruling with respect to Xerox's first *in limine* motion. Under the entire market value rule, liability may not be extended to include "items that have essentially no functional relationship to the patented invention and that may have been sold with an infringing device only as a matter of convenience or business advantage." *Rite-Hite Corp.*, 56 F.3d at 1550. Thus, in response to Xerox's first motion *in limine*, I ordered AccuScan to remove from its damages calculations revenues from sales of supplies, such as paper and toner. However, Dr. Stewart only removed these revenues from the royalty base, but did not remove them from the projections from which he calculated the reasonable royalty rate.

The only other evidence in the record as to AccuScan's damages, other than Dr. Stewart's testimony, was the testimony of Xerox's damages expert, David Haas. Haas testified that based on his consideration of the fifteen *Georgia-Pacific* factors, AccuScan's damages were $150,000, plus pre-judgment interest, or about $280,000 today. (Tr. 816-17). Thus, the jury, in awarding $40 million in damages, necessarily relied on Dr. Stewart's recommended royalty rate. Because it appears that the jury clearly relied on an impermissible basis in reaching its verdict, Xerox's motion for a new trial on damages is granted. *See Litton Systems Inc. v. Honeywell Inc.*, 140 F.3d 1449, 1465 (Fed. Cir. 1998).

*B. The Marking Requirements of 35 U.S.C. § 287*

Xerox also challenges this Court's summary judgment ruling that AccuScan had provided notice to Xerox of infringement with respect to scanners and copiers, as well as facsimile machines, by letter dated October 12, 1990. While I decline to grant Xerox judgment as a matter of law on this issue, I find that the issue of when AccuScan gave actual notice of infringement with respect to the non-facsimile machine products is an issue of fact that should have been submitted to the jury.[11]

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11. AccuScan argues that because Xerox did not seek reconsideration of this Court's summary judgment decision with respect to § 287, Xerox should not be permitted now to challenge this decision. However, a trial court has the power to reconsider the decisions it previously made on summary judgment as "further reflection may allow a better informed ruling." *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 839 F.2d 1544, 1551 (Fed. Cir.), *cert. denied*, 480 U.S. 828 (1988) (quoting *Corporation de Mercadeo Agricola v. Mellon Bank Int'l*, 608 F.2d 43, 48 (2d Cir. 1979)).

*Appendix E*

Section 287(a) requires patentees to mark the patent number on products they sell; this duty to mark extends to products sold under license. 35 U.S.C. § 287(a); *Loral Fairchild Corp. v. Victor Co. of Japan, Ltd.*, 906 F. Supp. 813, 816 (E.D.N.Y. 1995). A patentee who fails to mark cannot recover damages accruing prior to giving actual notice of infringement. 35 U.S.C. § 287(a). For purposes of § 287, notice must be of infringement, not merely of the patent's existence or ownership. *Amsted Indus. Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994). "The actual notice requirement of § 287(a) is satisfied when the recipient is informed of the identify of the patent and the activity that is believed to be an infringement, accompanied by a proposal to abate the infringement, whether by license or otherwise." *SRI Int'l, Inc. v. Advanced Technology Labs., Inc.*, 127 F.3d 1462, 1470 (Fed. Cir. 1997).

On October 12, 1990, AccuScan sent a letter to Xerox stating that it believed certain Xerox facsimile machines "operate in a manner which infringes the '144 patent" and offered Xerox a license under the '144 patent. This letter did not specifically refer to scanners, copiers or document publishing systems. (PTX 64). Xerox concedes that this letter constitutes actual notice of infringement with respect to facsimile machines. Scanners, copiers and document publishing systems are another matter. Xerox contends that AccuScan never specifically accused these products of infringing until after it filed this lawsuit, some three years after the patent expired, and thus that AccuScan is precluded from recovering any damages for these products. In my prior ruling on summary judgment, I found that AccuScan's letter to Xerox on October 12, 1990 constituted actual notice of

infringement for the other accused products, as well as for facsimile machines.

Xerox argues that the notice of infringement by facsimile machines could not put Xerox on notice of infringement by scanners, copiers or document publishing systems as a matter of law. Notice under § 287 cannot merely be of the patent's existence, but must be a specific charge of infringement by a specific product. *Amsted*, 24 F.3d at 187. Thus, says Xerox, notice with respect to one product does not qualify as notice for other unnamed products, citing *Refac Electronics Corp. v. A&B Beacon Business Machines Corp.*, 695 F. Supp. 753, 755 (S.D.N.Y. 1988). In *Refac*, the patentee sent a letter to the infringer, notifying him that it owned certain patents, and listing a number of infringing items including watches, clock radios and video cassette recorders. *Id.* at 754. The patentee brought a suit alleging that the infringer's electronic blood pressure monitor infringed its patent. The court held that the letter did not constitute notice that the blood pressure device, "a wholly different device" infringed the patent in suit. *Id.* at 755. The court indicated that all of the infringing devices listed in the letter were in the watch/clock family, noting that a video cassette recorder contains clock functions. *Id.* at 755 & n. 7.

The *Refac* case is distinguishable from the instant case. Scanners, copiers and document publishing systems are not "wholly different devices" than facsimile machines. Instead, these products are all part of the same family of devices. *Refac* therefore does not compel the result that AccuScan's 1990 letter fails as notice of infringement with respect to scanners, copiers, and document publishing systems as a

matter of law.[12] Moreover, there is no authority to support Xerox's proposition that the actual notice requirement cannot be satisfied as a matter of law unless the specific accused device is itself mentioned in the notice, even where other similar devices are referred to in the notice. Instead, the Federal Circuit has emphasized that there is some flexibility involved in determining whether the actual notice requirement has been met:

> Although there are numerous possible variations in form and content, the purpose of the actual notice requirement is met when the recipient is notified, with sufficient specificity, that the patent holder believes that the recipient of the notice may be an infringer. The actual notice requirement of § 287(a) is satisfied when the recipient is informed of the identify of the patent and the activity that is believed to be an infringement, accompanied by a proposal to abate the infringement, whether by license or otherwise.

*SRI Int'l, Inc.*, 127 F.3d at 1470. Thus, a court could conclude, in appropriate circumstances, that notice was provided with respect to a product that was not specifically mentioned. *See T.D. Williamson, Inc. v. Laymon*, 723 F. Supp. 587, 606 (N.D. Okl. 1989), *aff'd*, 923 F.2d 871 (Fed. Cir. 1990), *cert. dismissed*, 500 U.S. 901 (1991) (where letter indicated that defendant's proposed use of a device to perform pipeline caliper likely infringed plaintiff's patent, notice requirement

12. In any event, the ruling in *Refac*, a Southern District of New York decision, while persuasive authority, is not controlling.

was complied with as, unlike in *Refac*, there was no confusion about which devices the letter was intended to cover).

That said, however, it is well established that whether § 287 was complied with is an issue of fact for the jury. *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1244 (1997); *see, e.g.*, *Mawell v. K Mart Corp.*, 880 F. Supp. 1323, 1339 (D. Minn. 1995); *Wokas v. Dresser Industries, Inc.*, 978 F. Supp. 839, 845 (N.D. Ind. 1997). Although I do not find, as Xerox urges, that the 1990 letter fails as notice of infringement with respect to scanners, copiers and document publishing systems as a matter of law, upon reconsideration, I conclude that it was error not to let the matter go to the jury.[13]

Accordingly, at the second trial on damages, the factual issues of whether AccuScan complied with the requirements of § 287 and when AccuScan provided actual notice of infringement with respect to non-facsimile machines should be determined by the jury. Specifically, since AccuScan granted a license under the '144 patent in 1977, which did not require the licensee to mark their products (DTX ABJ), AccuScan can only establish that it complied with the marking requirements of § 287, if it shows that no patented articles were actually sold by its licensee or that substantially all of the products sold by its licensee were marked. If it

13. Contrary to AccuScan's argument, I adhere to my prior determination that AccuScan's March 9, 1989 letter to Xerox fails to satisfy the actual notice requirement with respect to any of the infringing products as a matter of law, because it neglects to identify any products that are allegedly infringing, but merely gives notice of the existence of the patent. *See Amsted*, 24 F.3d at 187.

cannot establish that it complied with these marking requirements, AccuScan is precluded from recovering damages for facsimile machines until after October 12, 1990 and is precluded from recovering damages for the other infringing products until after it gave actual notice of infringement for these products, which issue should be determined by the jury.[14]

VI. *Willfulness*

AccuScan moves pursuant to Rule 50(b) for entry of judgment as a matter of law that Xerox's infringement of the '144 patent was willful. Whether infringement was willful is a question of fact, and willful infringement must be established by clear and convincing evidence. *SRI Int'l, Inc. v. Advanced Tech. Labs., Inc.*, 127 F.3d 1462, 1465 (Fed. Cir. 1997). In determining whether infringement was willful, the primary consideration is whether the infringer, acting in good faith and upon due inquiry, had sound reason to believe that it had the right to act in the manner that was found to be infringing. *Id.* at 1464. The finder of fact is required to consider the totality of circumstances in resolving the question of willfulness, including whether the infringer obtained and followed competent legal advice. *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944 (Fed. Cir. 1992). However, absence of an opinion of counsel, as plaintiff contends, does not compel a finding of willfulness. *Rolls-*

14. Xerox argues that if this Court does not grant Xerox's motion under § 287, then the Court should limit AccuScan's damages for scanners and copiers under 35 U.S.C. § 286. Based on the above ruling, I need not reach this issue, however.

*Appendix E*

*Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1109 (Fed. Cir. 1986).

Upon a review of the evidence and a consideration of AccuScan's arguments, I find that a reasonable jury could have found that AccuScan failed to establish by clear and convincing evidence that Xerox's conduct was willful. For example, there was evidence that upon receipt of AccuScan's March 6, 1989 letter asking Xerox to take a license under the '144 patent, Xerox investigated and responded to AccuScan's letter. (Tr. 443, PTX 62). After receiving the October 1990 letter regarding infringement of facsimile machines, Xerox launched an investigation, which resulted in an opinion by a Xerox attorney in January 1993. (Tr. 425, 443, PTX 152A). Later, Xerox obtained an opinion from outside counsel. (PTX 159). There was also ample evidence at trial that outlined Xerox's traditional patent practices, and negated a finding of willfulness. (DTZ AJZ, Tr. 562-565). Accordingly, AccuScan's motion for judgment as a matter of law on the issue of willfulness is denied.

**CONCLUSION**

For the foregoing reasons, Xerox's motion for judgment of non-infringement or invalidity or for a new trial on the issue of liability is DENIED, Xerox's motion for a new trial on the issue of damages, including the issue of whether plaintiff complied with the requirements of 35 U.S.C. § 287, is GRANTED and AccuScan's motion for entry of a judgment of willfulness is DENIED. The parties shall contact Chambers forthwith to schedule a mediation; allow several hours for the session. The mediation shall occur on or before

September 25, 1998. Should the session not result in closure, it may prompt a remittitur. Each side will bring to the conference at least one principle with knowledge of the facts and settlement authority and preferably no more than two lawyers. No papers are necessary.

**SO ORDERED.**

New York, New York
September 10, 1998

s/ Harold Baer, Jr.
U.S.D.J.

## APPENDIX F — ORDER OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DENYING PETITION FOR REHEARING DATED AND FILED JULY 3, 2001

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

00-1316, -1320, -1406

ACCUSCAN, INC.,

Plaintiff-Cross Appellant,

v.

XEROX CORPORATION,

Defendant-Appellant.

**ORDER**

A combined petition for panel rehearing and for rehearing en banc having been filed by the CROSS-APPELLANT, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for panel rehearing be, and the same hereby is, DENIED and it is further

*Appendix F*

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on July 10, 2001.

Circuit Judge DYK did not participate in the vote.

FOR THE COURT,

s/ Jan Horbaly (AV)
Jan Horbaly
Clerk

Dated: July 3, 2001

## APPENDIX G — AMENDMENT OF THE UNITED STATES PATENT AND TRADEMARK OFFICE DATED OCTOBER 14, 1975

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art No. 233

Applicant: CARL RAYMOND KOLKER

Serial No.: 511,422

Filed: October 2, 1974

For: METHODS AND APPARATUS FOR AUTOMATIC BACKGROUND AND CONTRAST CONTROL

Examiner: Britton

Beverly Hills, California 90212
October 14, 1975

Hon. Commissioner of Patents and Trademarks
Washington, D.C. 20231

AMENDMENT

Sir:

Responsive to the Office Action dated June 20, 1975, please amend the above-identified application as follows:

*Appendix G*

IN THE SPECIFICATION:

At page 3, line 27, after "application", please insert -- now U. S. Patent No. 3,843,839 --;

Page 13, line 28, before "to", insert -- now U. S. Patent No. 3,843,839 --;

Page 14, line 16, after "312,114", insert --, now U. S. Patent No. 3,843,839 --;

IN THE CLAIMS:

Claim 1, line 11, after "for", insert -- continually --;

Claim 10, line 3, after "connected", insert -- in shunt connection --;

CANCEL CLAIM 17.

REMARKS

Patent Numbers have been supplied in the specification as required by the Examiner. Correction of the drawings Fig. 1, have been authorized in a separate Letter to the Office Draftsman as required by Examiner and by Item 7 in the Notice of Informal Patent Drawings. In addition, in the correction to the drawings, the input line designated EOF to Unit 41b has been shortened so as to use the same convention with respect to EOF inputs as was used with Unit 43b, i.e., that these are all reception points for the signal EOF from Unit 71.

*Appendix G*

In the Office Action, the Examiner rejected all of the claims in this case, Claims 1 through 19, under 35 U.S.C. §103, as obvious over the Krallinger, et al. reference in view of the Johnson reference. This rejection is respectfully traversed for reasons which will be set forth fully below.

In order to clarify the reasons for traversal of the rejection, it is desirable to first briefly describe the nature and structure of the Automatic Background and Contrast Control system of the present invention as contrasted with the Krallinger, et al. and Johnson devices. The ABC unit of the present invention includes both a sequencing circuit and a sampling and signal processing circuit and is specially adapted to be used in a facsimile transmitter or receiver. In such operation with a facsimile transmitter, the transmitter develops a ramp deflection voltage which deflects the transmitter scanning element in a calibration scan across a calibration strip which has first an extended black area and then an extended white area established thereon. The sequencing circuit of the ABC unit is responsive to the transmitter's ramp deflection voltage to produce a first sampling signal when the ramp voltage reaches a predetermined magnitude corresponding to the scanning of the black area of the calibration strip and produces a second sampling signal when the ramp voltage reaches a second predetermined magnitude corresponding to the scanning of the white area of the calibration strip.

In the sampling and signal processing functions the ABC unit is operated under the control of these two separated first and second sampling signals. In response to the first sampling signal, the ABC unit stores in the input capacitor of an operational amplifier a sample of the video signal then being produced by the transmitter scanning element, this sample of the video input

signal thus being representative of the black shade of the calibration strip then being traversed during the calibration scan. In response to the second sampling signal, the ABC unit stores in the input capacitor of a second operational amplifier a second sample of the video input signal corresponding to the white shade or value of the calibration strip being scanned. Thus, at the completion of the calibration scan separate black and white representing samples of the input video signal are held stored in the input capacitors of their respective operational amplifiers, which produce corresponding output voltage signals $V_b$ and $V_w$ representative of the voltage magnitudes of the black and white samples. The black and white samples are held stored throughout the complete scanning of the complete document page and both of them are utilized continuously throughout this period to control the automatic background and contrast control operations of the ABC unit. In such operation the signals $V_w$ and $V_b$ are continuously combined in an operational amplifier to continuously produce a signal representative of the magnitude $V_w - V_b$. In addition, the received video input signal (designated $V_{in}$) is continuously combined in an operational amplifier with the signal $V_b$ to produce an output signal representative of the magnitude $V_{in} - V_b$. The two output signals $V_{in} - V_b$ and $V_w - V_b$ are continuously combined in a divide circuit to produce a final output signal $V_o$, which has a magnitude representative of the quantity $\frac{V_{in} - V_b}{V_w - V_b}$. This represents a fully normalized and gain corrected signal which is corrected both for undesired voltage offsets and biases and for undesired gain variations. It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the continual storage of the separate black and white samples throughout the subsequent scanning and transmission of

a document, and by the continuous use during such period of the separately stored black and white samples to continuously correct the video signal received during the scanning of the document. Moreover, the ABC unit of the present invention is further characterized by automatic production and sequencing of the separate black and white sampling signals in response to the corresponding magnitudes of the ramp deflection voltage of the transmitter during the calibration scan.

Referring now in contrast to the Krallinger, et al. device, the Krallinger, et al. patent shows a drum-type facsimile transmitter receiver in which a black line or bar is provided the length of the drum along the left-hand edge of the document to provide a black calibration area at the beginning of each line. The white margin of the document immediately following the black bar provides the white calibration area. A sync signal is generated at the beginning of a line by a mirror and light combination which is aligned with the black bar and flashes a burst of light into a detector. This single sync signal is used as a sampling signal to store the corresponding black signal in the input capacitor of a controllable gain video amplifier to thereby set the reference level of the video amplifier. The immediately following white signal is not sampled or stored but instead, because of its appearance immediately following the black signal, is used in a servo operation to vary the gain of the controllable amplifier so that the amplified white signal is equal to a preset reference voltage $V_r$. This amplification or gain level once obtained, is held throughout the complete line by the cumulative charge stored in an error capacitor 52 which represents the cumulative level of the error signals produced in the slewing operations of the gain control servo of the amplifier. Capacitor 52 is a storage element but it does not store a sample of the white signal, and, moreover,

a sample of the white signal is not stored at any place or position in the Krallinger, et al. circuit.

In the further operation of the Krallinger, et al. device, during the scanning of the line the input video signal, background corrected by the black signal stored in capacitor 20, is multiplied by the temporarily fixed gain of the amplifier 24 throughout the remainder of the line so as to yield a background and gain compensated signal. It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized, the operation being merely that of setting the gain of the amplifier 24 and then using this fixed gain amplifier 24 as a multiplying or amplifying unit throughout the completion of the single line scan period. At the completion of each line scan the Krallinger, et al. circuit is reset by the sync pulse and repeats its calibration and operation functions during each successive line scan.

This operation of recalibrating at each line of the scan in the Krallinger, et al. device presents its own peculiar problems. If the black line or the white margin varies in shade along its length, this will result in different shading and contrast characteristics along the length of the document page being transmitted by the Krallinger, et al. transmitter.

The Johnson reference is merely cumulative to the Krallinger, et al. reference. The Johnson reference relates to an automatic gain control circuit for reading video signals recorded on a magnetic tape or other recording medium. The system assumes that successive black and white representing calibration signals have been inserted in the video recording in the blank or retrace area and these signals are used to set the gain of the following

amplifier. As in the Krallinger, et al. device, the black signal is stored in a capacitor 55 to set a base voltage reference for the operation of the device. However, the immediately following white signal is not in any way sampled or stored but is instead used to control the setting of the gain of the variable amplifier of the device to bear a fixed relation to a reference bias. Thus, the ensuing white sample is not sampled or stored in any manner and is not available during the ensuing operation. What is used during the ensuing operation is the stored black signal and the fixed gain of the variable amplifier which is held at a fixed gain level by integrated error charge on an error condensor 79. As in the Krallinger, et al. device, this charge on error condensor 79 represents the integral of the error values of the amplifier gain servo and is not a sample of the white signal.

It is, moreover, clear referring to the Krallinger, et al. and Johnson references that their circuitry and functions are so dissimilar that neither could be incorporated or combined with the other without destruction of both the primary and secondary reference. There is no teaching whatsoever for such combination and such combination could only be done by way of hindsight and through destruction of the operating circuitry of these references.

Referring now to the claims and keeping in mind the aforedescribed distinctions between the structure and function of the present invention and that of the references. It is clear, referring to Claim 1, that although the references do show the element A of the combination ("means for storing a first sample of said input signal"), the references do not show the second element B of the combination ("means for storing a second sample of said input signal when said input parameter is at its second

magnitude"). Thus, Krallinger, et al. or Johnson may show a device which stores a sample of the black value of the input signal but they do not store a second sample of the white value of the input signal. Similarly, referring to element C of the combination, since neither Krallinger, et al. nor Johnson store a second sample of the input signal, they have no apparatus which is operable during the operating period for "combining said input signal and said first and second samples to continually produce . . .". Moreover, in the present amendment in order to further emphasize the above-described distinctions, Claim 1 has been amended at line 11, so that the last named means is recited as "continually combining said input signal and said first and second samples".

Claim 2 is dependent upon Claim 1 and is similarly allowable. Moreover, Claim 2 introduces as a claimed element of the combination a facsimile transmitter having document areas which are scanned therein to produce the black and white signals and the subsequent variable magnitude signal representative of the shade of document area scanned in the transmitter. It is noted that the secondary Johnson reference does not deal at all with a facsimile transmitter but instead depends upon the availability of recorded video signals on a magnetic tape.

Claim 3 is dependent upon Claim 2 and further distinguishes over the references by reciting the automatic sequencing operation of the present ABC systems in which the facsimile transmitter generates the ramp deflection voltage to deflect the scanning element across the document and the first sample of the input signal is automatically stored in response to the ramp voltage reaching a predetermined magnitude corresponding to the scanning of the first area of the document. No such automatic

sampling operation is shown in the Krallinger, et al. reference in response to the magnitude of the ramp deflection voltage of the facsimile transmitter. In the Krallinger, et al. reference, the sampling signal for the black signal is produced by the flash of light from the sync mirror.

In Claim 4 a similar and second apparatus is recited for storing the second sample of the input voltage in response to a second magnitude of the ramp deflection voltage corresponding to the scanning of the second area. This entire structure and operation is entirely absent in the applied references.

Claims 5, 6 and 7 are dependent upon Claim 4 and are similarly allowable.

Referring to Claim 8, this claim fully distinguishes over the applied references by its recitation of "a second circuit means responsive to said first and second samples for continually producing a second different signal representative of their difference in magnitude" and further distinguishes in its recitation of "divider circuit means responsive to said first and second different signals for producing said output signal representative of the quotient of their magnitudes". This structure and operation is entirely absent in the references which do not have a divider circuit and do not continually produce a difference signal representative of the difference of the first and second samples.

Claim 9 is dependent upon Claim 3 and is similarly allowable. Claim 10 is dependent upon Claim 1 and is distinguished over the references in the same manner.

*Appendix G*

In the present amendment in order to further distinguish Claim 10, the words "in shunt connection" have been provided at line 3 to clarify the nature of the connection of the storage capacitor to the input of the operational amplifier. Such connection of the storage capacitor is not found in the references.

Claim 11 is a dependent claim which includes most of the aforesaid described distinguishing elements including the production of both separate first and second sampling signals in response to corresponding voltage magnitudes of the horizontal ramp deflection voltage and the storing of the first and second samples in response to the first and second sampling signals, all in combination with a facsimile transmitter which generates a ramp deflection voltage to deflect its scanning element in the calibration scan across first and second calibration areas of corresponding first and second shades of darkness. Thus, Claim 11 is directed to the automatic sequencing of the sampling and hold operations and is clearly distinguished over the references.

Independent Claim 13 is similar in scope to Claim 1 and is distinguished in the same manner by its recitation of its second and third means. The references lack any means for storing a second sample of the video input signal or producing a second signal representing said stored second sample, and further lacks any means for continually combining said video input signal with said first and second signals during scanning of said source document areas. Claim 13 is dependent upon Claim 12 and is similarly allowable. Claim 14 is also dependent upon Claim 12 and is similarly allowable. Moreover, in the receiver of the Krallinger, et al. reference, the successive black and white signals applied to the receiver are merely arbitrary locally generated reference signals and have nothing whatsoever to do with the

black and white signals generated by the calibration scan across the document as would be required by parent Claim 12.

Claim 15 which is dependent upon Claim 12 is similarly allowable and additionally describes in detail the manner in which the first and second sampling signals are generated in response to the successive voltage magnitudes of the ramp deflection voltage. Claim 16 is dependent upon Claim 12 and similarly distinguishes over the references.

Claim 18 is a method claim which recites separate storage of first and second samples and production of first and second signals representative of the stored first and second samples. Claim 18 further recites combining said first and second signals to produce a second output signal having a magnitude representative of their difference in magnitude and still further recites combining said first and second output signals. As has been previously discussed none of the references have any means for storing a second sample or producing a second signal representative of the stored second sample or combining the first and second signals to produce a second output signal representative of their difference in magnitude. Thus, method Claim 18 is clearly distinguished over the references.

Claim 19 is dependent upon Claim 18 and is similarly distinguished.

In view of the foregoing analysis of the distinguishing features of the claims in relation to the applied references, favorable action is respectfully solicited.

*Appendix G*

Respectfully submitted,

s/ Seymour A. Scholnick
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Supreme Court, U.S.
FILED
JAN 14 2004
OFFICE OF THE CLERK

(3)

No. 03-869

IN THE
# Supreme Court of the United States

ACCUSCAN, INC.,

*Petitioner*,

v.

XEROX CORPORATION,

*Respondent.*

**On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit**

## RESPONDENT'S BRIEF IN OPPOSITION

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January 14, 2004

## QUESTION PRESENTED

Should the Court overturn the non-precedential, unpublished decision below where the Federal Circuit did not apply a "complete bar" approach to the doctrine of prosecution history estoppel, but instead, applied uniform and well-established precedent that a patentee cannot use the doctrine of equivalents to capture subject matter that was specifically surrendered to the Patent and Trademark Office in order to obtain allowance of its claims?

## PARTIES TO THE PROCEEDING BELOW

The parties are Petitioner, AccuScan, Inc., and Respondent, Xerox Corporation.

Xerox Corporation identifies the following company as a publicly held company that owns 10 percent or more of the stock of Xerox: State Street Bank and Trust Co., a subsidiary of State Street Corporation, 225 Franklin Street, Boston, Mass. 02110.

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## STATEMENT OF THE CASE

### I. INTRODUCTION

In *AccuScan v. Xerox*, the Federal Circuit prevented AccuScan from arguing that its claims mean one thing during the process of procuring a patent, but yet another during litigation. This decision was supported—and indeed compelled—by the well-established precedent of this Court and the Federal Circuit. *See e.g., Warner-Jenkinson Co. v. Hilton Davis Chem. Co.,* 520 U.S. 17, 30-34 (1997); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n,* 988 F.2d 1165, 1173 (Fed. Cir. 1993).

Nevertheless, AccuScan argues that the Federal Circuit's decision in the instant case constitutes an attempt to circumvent this Court's decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 535 U.S. 722 (2002), which rejected the "complete bar" approach to asserting the doctrine of equivalents. AccuScan argues that based on arguments it made during prosecution, the Federal Circuit applied an "absolute bar to the application of the doctrine of equivalents." (AccuScan Pet. at 22.) AccuScan further characterizes the decision below as "eliminat[ing] the doctrine of equivalents," and "foreclos[ing] the doctrine of equivalents, totally and unrebuttably." (AccuScan Pet. at i, 17.) As with its first petition for certiorari in this case, AccuScan makes such arguments in an attempt to bootstrap the instant case to this Court's decision in *Festo*.

But, AccuScan's characterization of the Federal Circuit's decision is simply wrong. In the instant case, the Federal Circuit specifically examined the prosecution of the application that led to AccuScan's U.S. Patent No. 3,952,144 ("the '144 patent"), and found that in order to overcome a

prior art reference cited by the Examiner, AccuScan unambiguously argued that its claims did *not* cover certain subject matter. The Federal Circuit then found that the undisputed evidentiary record demonstrated that the four accused Xerox devices practiced the very subject matter that AccuScan disavowed in order to obtain allowance of its claims. Accordingly, based on "well-settled" precedent, the Federal Circuit held that AccuScan could not use the doctrine of equivalents to capture the very subject matter it surrendered during prosecution.

This decision is entirely consistent with this Court's decision in *Festo,* and represents the application of the well-established precedent of the Federal Circuit to a garden-variety patent case. Accordingly, this Court should preserve its limited judicial resources and deny certiorari to the questions presented.

## II. THE TECHNOLOGY UNDERLYING ACCUSCAN'S '144 PATENT

In order to fully understand the Federal Circuit's opinion, it is useful to understand the technology at issue. The technology claimed by AccuScan's '144 patent "calibrates" the scanning portion of a facsimile machine. In transmitting the contents of a document to another facsimile machine, the facsimile machine described by the '144 patent specification scans a document with a beam of light. A photosensor senses the light reflected off the document and generates an electrical signal—designated "a video input signal"— that varies according to the amount of reflected light. This video input signal (referred to as "$V_{in}$"), however, is subject to undesirable "voltage offsets" and "gain

variations" that reduce the accuracy of the image produced by the receiving facsimile machine.

To maintain the accuracy of the image sent to the receiving facsimile machine, the machine described by the '144 patent automatically "calibrates" the video input signal to eliminate these "voltage offsets" and "gain variations." The circuit responsible for carrying out the calibration of the video input signal is designated the "Automatic Background and Contrast Control unit" ("the ABC circuit").

The ABC circuit performs its task by measuring the input signal obtained from scans of known samples of black and white. Like finding North and South on a map before determining one's position, the ABC circuit uses the values obtained from these known samples of black and white to calibrate the video input signals obtained from a subsequent scan of a document.

To obtain the values for white and black, the ABC circuit scans a "calibration strip." The calibration strip has a black portion and a white portion. The ABC circuit obtains a black sample—designated $V_b$—from the black part of the calibration strip and obtains a white sample—designated $V_w$—from either the white part of the calibration strip or from the background of the document itself. The circuit stores these values during the entire scan of the document.

The ABC circuit then calibrates the video input signal using these white and black values. It does so by converting the video signal obtained from the scan of the document to values that are always—despite any voltage offsets or gain variations—between 1 and 0. The patent also discloses that the values between 1 and 0 can be multiplied by a

predetermined constant called a "scale factor" to obtain values between 0 and the scale factor.

According to claim 1 of the '144 patent, the claimed apparatus makes this conversion by obtaining "the difference in magnitude [between the] input signal and [the] first sample *divided* by the difference in magnitude [between the] first and second samples."[1] In the ABC circuit described by the '144 patent, the first sample is black and the second sample is white.

The operation of the ABC circuit can be best illustrated by assuming the following hypothetical values: the scan of the first or black sample ($V_b$) provided a value of 2 volts; the scan of the second or white sample ($V_w$) provided a value of 6 volts; and the scan of the video input signal ($V_{in}$) provided a value of 3 volts.

The ABC circuit subtracts the first sample from the video input signal ($V_{in}$ -$V_b$) providing a value of 1 volt (3-2=1). It also subtracts the first sample from the second sample ($V_w$-$V_b$) providing a value of 4 volts (6-2=4). Next, it *divides*—utilizing a *"divide circuit"*— the 1 volt by the 4 volts ($V_{in}$-$V_b$/ $V_w$-$V_b$) to obtain a value of .25 (1/4=.25)—a value between 0 and 1. Finally, the ABC circuit multiples the value obtained by 10 (the scale factor) to obtain values between 0 and 10. Thus, in the above example, the final value for the calibrated video signal is 2.5 (10 x .25=2.5). In this way, the ABC circuit eliminates voltage offsets that distort the reproduced image received by the receiving facsimile machine.

---

[1]The subject matter of claim 17 is substantially similar to claim 1, although presented in the format of a method claim.

## III. ACCUSCAN SURRENDERED COVERAGE OF XEROX'S ACCUSED DEVICES DURING PROSECUTION TO DISTINGUISH OVER KRALLINGER

### A. AccuScan Was Forced to Severely Limit Its Claims During Prosecution

Like the device described by the '144 patent, U.S. Patent No. 3,761,610 (referred to as "Krallinger") also disclosed a facsimile system that calibrates a video input signal using known samples of black and white. As set forth below, AccuScan was forced to drastically limit the scope of its claims to overcome this reference.

Krallinger calibrates a video input signal by obtaining a black sample from a "black band" that precedes each line of text of the document and by obtaining a white sample from the background of the document itself. The device then uses the black and white samples to calibrate the voltage of a video input signal so that it varies only between 0 for black signals to a predetermined constant (designated "$V_r$") for white signals. Like the scale factor described by the '144 patent, $V_r$ represents the maximum value produced after calibration.

However, unlike the ABC circuit disclosed by the '144 patent, Krallinger *does not store a white sample that is held during the entire scan of the document.* Instead, Krallinger obtains the value for the white sample for each line of text of the document and immediately converts it into a "*gain value.*" (App. at 5.) This gain value is equal to the predetermined constant ($V_r$) divided by the difference between the white sample and the black sample ($V_r/ V_w-V_b$). It is the "gain value"—and not the white sample—that is

stored and *multiplied* by the difference between the video input signal and the value stored for the black sample ($V_{in}$-$V_b$). (App. at 5-6.)

Therefore, using the numbers set forth above, Krallinger would subtract the black value from the white value ($V_w$-$V_b$) to obtain the value 4 (6–2=4). Accordingly, the gain value ($V_r$/$V_w$-$V_b$) would be 2.5 (10/4 =2.5). The Krallinger device then *multiplies* the gain value (2.5) by the video input signal minus the value for the black sample ($V_{in}$-$V_b$ or 3-2=1) to obtain the value 2.5 (2.5 x 1=2.5) for the normalized video signal—the exact same value produced by the claimed ABC circuit.

Moreover, as a consequence of *multiplying* the difference of the input signal and the black sample ($V_{in}$-$V_b$) by the gain value ($V_r$ /$V_w$-$V_b$), the Krallinger device does not perform *division* during the scan of the document. (App. at 5-6.)

During prosecution, the Examiner rejected the claims of the '144 patent corresponding to the ones at issue as obvious over Krallinger. (App. at 2.) In its response, AccuScan pointed out that Krallinger does *not* store a white sample for the entire scan of the document, but instead, converts the value obtained for the white sample to a *gain value*. (App. at 5-6.) As claim 1 of the '144 patent requires three elements: (1) a means for storing a first sample, (2) a means for *storing a second sample*, and (3) a means for "*continually combining*" the input signal with the first and *second samples* to obtain a normalized or corrected signal, AccuScan argued that Krallinger did not fall within the scope of the '144 patent's claims because it did not store a second or white sample—element (2)—and thus could not possibly "continually" combine the input signal with the first and

second samples to obtain a normalized signal—element (3). (App. at 7-8, emphasis added.)[2]

More specifically, AccuScan argued that in the claimed ABC circuit, "[t]he black and white samples *are held stored throughout the complete scanning of the complete document page*" and then *"continuously combined"* to form the output signal. (App. at 4, emphasis added.) "It is clear, however, that *a white sample is not stored or utilized during this operating period* [by the Krallinger device]." (App. at 6, emphasis added.) "Krallinger . . . may show a device which stores a sample of the black value of the input signal *but [it does] not store a second sample of the white value of the input signal.*" (App. at 7, emphasis added.)

Therefore, because Krallinger did not actually store a second sample but only calculated "a gain value," AccuScan argued Krallinger had "no apparatus which is operable during the operating period for 'combining said input signal and said first and second samples . . . .'" (App. at 7, emphasis in original.) Indeed, to emphasize the claimed invention's differences over Krallinger, and contrary to AccuScan's assertions to this Court, AccuScan specifically amended claim 1 to indicate that claimed device "continually" combined the input signal with both the first and second samples. (App. at 7-8.)

In addition to not storing a second sample, AccuScan further distinguished Krallinger by arguing that while its claims required a *division operation* during the scan of the document, the input signal in *Krallinger* "is multiplied by the temporarily fixed gain [the gain value]." (App. at 5-6,

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[2]AccuScan distinguished claim 18, the claim corresponding to method claim 17, on essentially the same basis. (App. at 11.)

emphasis in original.) In Krallinger, "*no divide circuit* is utilized, the operation being merely that of setting the gain of the amplifier 24 [the gain value] and then using this fixed gain . . . as a multiplying . . . unit." (App. at 6, emphasis added.)

Thus, in order to obtain allowance of claims 1 and 17 of the '144 patent, AccuScan specifically argued that these claims did *not* cover circuits that (1) do not store and hold a white sample during the entire scan of the document, (2) do not continually combine the input signal with the black and white samples during the entire scan of the document, and (3) do not utilize a divide circuit during the scan of the document to calibrate the input signal.

B. Xerox's Accused Devices

The undisputed evidence in the record established that neither the DocuTech system nor the 5775 color copier utilized a *divide circuit* during the entire scan of the document to calibrate the input signal. (AccuScan Pet. App. C at 16a-17a.) Like Krallinger, the DocuTech system *multiplies—not divides*—the difference between the input and the black sample by a gain value to calibrate the signal during the scan of the document. (*Id.*) In the same way, the 5775 copier subtracts logarithms and does *not utilize a divide circuit.* (*Id.*)

Moreover, the undisputed evidence at trial also established that *all* of the four Xerox products AccuScan accused of infringement, the DocuTech Publishing System, the 5775 Color Copier, the 7017/20/21 facsimile machine, and the SA4 Scanner, (1) do not store and hold a white sample during the scan of the entire document, and (2) do not continually combine the input signal with the black and

white samples during the entire scan of the document. (AccuScan Pet. App. C at 20a.)

In particular, the expert testimony at trial demonstrated that rather than storing a white sample, the DocuTech system and the 5775 copier—like Krallinger—calculate a gain value before the scanning period and store and use this gain value to calibrate the video signal during the entire scan of the document. Likewise, the evidence demonstrated that the 7017/20/21 facsimile machine and the SA4 scanner also do not store a white sample, but instead store the difference between the black and white samples during the scan of the document.

## IV. THE FEDERAL CIRCUIT'S DECISIONS

After a jury awarded AccuScan millions of dollars for Xerox's alleged infringement of the '144 patent, Xerox appealed to the Federal Circuit, arguing that the claims in question, as a matter of law, could not be interpreted to cover Xerox's accused devices based on the positions taken by AccuScan during prosecution. The Federal Circuit agreed.

In reaching its decision, the Federal Circuit applied well-established precedent and correctly held that "[a]rguments and amendments made during the prosecution of the '144 patent limit the interpretation of the claim terms so as to exclude any interpretation that was disclaimed during prosecution." (AccuScan Pet. App. C at 12a.)

Based on the statements discussed above, the court found that during prosecution, "AccuScan explicitly disclaimed coverage of any device performing the mathematical calculation yielding [the video output signal]

by something other than a divide circuit." (AccuScan Pet. App. at 16a.) The court then explained that it was "uncontested" that neither the DocuTech nor the 5775 copier utilize a divide circuit to calculate the video output signal. (*Id.* at 16a-17a.) In response to AccuScan's position that the mathematical operations performed by the DocuTech and 5775 copier constituted a form of division and were thus covered by the claim, the Federal Circuit explained that while AccuScan may be "mathematically correct" in the abstract, AccuScan "explicitly disclaimed such an interpretation during prosecution." (*Id.* at 17a.)

In addition to limiting AccuScan's claims to circuits that performed division during the scan of the document, the Federal Circuit further relied on the statements set forth above concerning the continual storage of a white sample. The Federal Circuit explained that during prosecution, "AccuScan distinguished the '144 patent over other devices which did not store a sample of the white signal," including devices (such as Krallinger) that "use the white sample signal to create a related value [a gain value] which is then stored." (*Id.* at 19a.) "[T]he prosecution history makes it clear that such a mathematically related value [a gain value] is not equivalent to the '144 patent's storage of a separate white sample signal." (*Id.*) The court further stated that "a distinguishing feature of the '144 patent is the continual storage and continuous use of the separately stored black and white samples throughout the scanning of an entire document." (*Id.*) Accordingly, the Federal Circuit held that the claims at issue "require continuous 'storing' of the [white sample] value in its pure form, and continuous 'combining' of this value throughout the scanning of the document." (*Id.* at 20a.)

The Federal Circuit then examined the evidentiary record and determined that "[t]he diagrams of the operation of the Xerox devices *created by AccuScan* make it clear that the four different Xerox product lines at issue only temporarily store the white sample . . . in its pure form." (*Id.*, emphasis added.) Moreover, the court found that there was "no dispute that this is a correct characterization of the accused Xerox products." (*Id.*) Thus, because the white sample is only stored temporarily, "it cannot be used continuously as required by the '144 patent claims . . . in light of the prosecution history." (*Id.*) Accordingly, the Federal Circuit held that there was no literal infringement as AccuScan's claims could not be interpreted to cover Xerox's accused devices.

Furthermore, based on this clear and unambiguous surrender of subject matter during prosecution, the Federal Circuit also held that AccuScan could not now use the doctrine of equivalents to capture such subject matter. (*Id.*) In reaching this decision, the Federal Circuit cited *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 234 F.3d 558, 564 (Fed. Cir. 2000) and *Texas Instruments, Inc. v. United States Int'l Trade Comm'n,* 988 F.2d 1165, 1173 (Fed. Cir. 1993).

AccuScan then submitted a petition for a Writ of Certiorari to this Court. In its petition, AccuScan argued that that the Federal Circuit applied the complete bar approach to prosecution history estoppel set forth in *Festo,* 234 F.3d at 574-75. Xerox opposed AccuScan's petition, arguing that the Federal Circuit did not apply a complete bar, but merely cited *Festo* to provide a general background to the history and application of the doctrine of prosecution history estoppel.

Nevertheless, this Court vacated the Federal Circuit's decision and remanded the case for further consideration in light of this Court decision in *Festo*. (AccuScan Pet. App. B.)

On remand, the Federal Circuit (confirming the correctness of Xerox's position) stated that it had cited *Festo* merely "to provide a background of the various estoppels that may arise from actions or arguments made by the patentee during prosecution." (AccuScan Pet. App. A at 5a, n.1.) The Federal Circuit explained that its ruling was "necessitated by the *well-settled* doctrine of argument-based estoppel, which arises from the patentee's representations to the Patent and Trademark Office during prosecution." (*Id.*, emphasis added.) The Federal Circuit stated that the standard for applying argument-based estoppel is whether there has been a "clear and unmistakable surrender." (*Id.*) During prosecution, AccuScan "clearly and unmistakably disclaimed" (*Id.* at 3a) the subject matter practiced by Xerox's accused devices (*Id.* at 5a-6a). Accordingly, the Federal Circuit held that Xerox could not infringe the '144 patent under the doctrine of equivalents. (*Id.*) "[A] patentee cannot recapture through the doctrine of equivalents subject matter already precluded by the doctrine of prosecution disclaimer." (*Id.* at 6a.)

## REASONS FOR DENYING THE WRIT

### I. THE FEDERAL CIRCUIT DID NOT APPLY THE "COMPLETE BAR" APPROACH REJECTED BY *FESTO*

This Court should not expend its extremely limited resources by examining a routine patent infringement case

where the Federal Circuit applied its "well-settled" precedent. This precedent (decided both before and after this Court's decision in *Festo*) establishes that the doctrine of equivalents cannot be used to ensnare subject matter that the patentee specifically and unambiguously surrendered during prosecution by either argument or statement to obtain allowance of the claims at issue. *See e.g., Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1363 (Fed. Cir. 2003)("To invoke argument-based estoppel, the prosecution history must evince a 'clear and unmistakable surrender of subject matter.'"); *Deering Precision Instruments, L.L.C. v. Vector Distribution Sys., Inc.*, 347 F.3d 1314, 1324 (Fed. Cir. 2003)("There are two distinct theories that fall under the penumbra of prosecution history estoppel—amendment-based estoppel and argument-based estoppel."); *Cortland Line Co. v. Orvis Co.*, 203 F.3d 1351, 1360 (Fed. Cir. 2000) (stating that the patentee's statements during prosecution "evince[] a clear and unmistakable surrender"); *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 981(Fed. Cir. 1999) (holding that "[a]rguments and amendments made to secure allowance of a claim . . . presumably give rise to prosecution history estoppel"); *Litton Sys., Inc. v. Honeywell, Inc.*, 140 F.3d 1449, 1462 (Fed. Cir. 1998)(explaining that "an applicant's arguments may constitute a clear an unmistakable surrender of subject matter" and "preclude recapture of that subject matter"); *Texas Instruments*, 988 F.2d at 1174 ("Unmistakable assertions made by the applicant to the Patent and Trademark Office . . . may operate to preclude the patentee from asserting equivalency."); *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1577-79 (Fed. Cir. 1993)(holding that prosecution history estoppel can arise from "arguments submitted to obtain the patent"); *Coleco Indus., Inc. v. United States Int'l Trade Comm'n*, 573 F.2d 1247 (C.C.P.A. 1978)(basing estoppel on arguments made to the PTO).

In an effort to overcome this well-established authority, AccuScan's two questions presented and corresponding arguments distort the Federal Circuit's opinion. AccuScan alleges that the Federal Circuit's application of the precedent of *argument*-based estoppel amounted to an "absolute bar to the application of the doctrine of equivalents." (AccuScan Pet. at 22.) AccuScan argues that the Federal Circuit did this in an effort to avoid the impact of the Supreme Court's decision in *Festo*, which addressed *amendment*-based estoppel. (*See e.g.*, AccuScan Pet. at i, 4-5, 16-17, 20, 22. ) AccuScan contends that as a result of "distinguishing prior art that marginally relates to a single element of the claim," the Federal Circuit held that AccuScan surrendered "a range of subject matter broader than that represented by the prior art." (AccuScan Pet. at 20.) AccuScan further characterizes the decision below as "eliminat[ing] the doctrine of equivalents," and "foreclos[ing] the doctrine of equivalents, totally and unrebuttably." (AccuScan Pet. at i, 17.)

Yet, and contrary to AccuScan's assertions, the Federal Circuit's application of argument-based estoppel does not in any way implicate the "complete bar" approach rejected by this Court in *Festo*. Indeed, AccuScan's arguments grossly misrepresent the scope of the subject matter it surrendered during prosecution.

Under the complete bar approach rejected by this Court, once a narrowing amendment has been made to a claim element for reasons of patentability, there arises a "complete bar" to invoking the doctrine of equivalents to this claim element. *Festo,* 234 F.3d at 574-75. This "complete bar" is applied irrespective of "the breadth of the [Examiner's] rejection, the closeness of the prior art, the

manner of the applicant's remarks and amendments, or the nature of the technology." *Id.* at 600 (Michel, J., dissenting-in-part).

In the instant case, however, the Federal Circuit did *not* apply a "complete bar" to invoking the doctrine of equivalents, but instead, carefully considered the breadth of the Examiner's rejection, the closeness of the prior art, the nature of the applicant's remarks, and the nature of the technology. In so doing, the Federal Circuit specifically examined the prosecution of the application that led to AccuScan's '144 patent, and found that in order to overcome a prior art reference cited by the Examiner, AccuScan unambiguously argued that its claims did *not* cover certain subject matter. The Federal Circuit then found that the undisputed evidentiary record demonstrated that the four accused Xerox devices practiced the very subject matter that AccuScan disavowed in order to obtain allowance of its claims.

Accordingly, and far from applying a "complete bar," the Federal Circuit held that based on the clear and unambiguous surrender of the very subject matter that was practiced by Xerox's accused devices, AccuScan was estopped, under the doctrine of argument-based estoppel, from asserting that Xerox's accused devices infringed under the doctrine of equivalents.

The Federal Circuit's decision is entirely consistent with this Court's decision in *Festo.* In *Festo,* this Court explained that "a narrowing amendment" should not be deemed "to relinquish equivalents unforeseeable at the time of the amendment and beyond a fair interpretation of what was surrendered." 535 U.S. at 728. Likewise, this Court noted that equivalence should not be foreclosed "for aspects

of the invention that have only a peripheral relation to the reason the amendment was submitted." *Id.*

Here, multiplication by a reciprocal (as opposed to the use of a division circuit) and the storage of a gain valve (as opposed to the continual storage of a white sample) were entirely foreseeable equivalents as AccuScan *specifically argued during prosecution that its claims did not cover such subject matter.* (*See* pages 6-9, *supra.*) Likewise, and contrary to AccuScan's assertions at page 19 of its petition, the surrender of this subject matter was *essential to the allowance of AccuScan's claims. Id.*

That the application of argument-based estoppel does not implicate the complete bar approach rejected by this Court can be readily seen in *Schwing Gmbh v. Putzmeister Aktiengesellschaft,* 305 F.3d 1318, 1327 (Fed. Cir. 2002). There, the patentee made statements during prosecution to distinguish the claimed invention over prior art devices. *Id.* Nevertheless, the Federal Circuit did *not* apply argument-based estoppel because the applicant's remarks were "equivocal at best" and did not clearly indicate that the patentee surrendered the subject matter of the accused devices. *Id.* But, applying this Court's decision in *Festo,* the Federal Circuit *did* hold that an amendment made during prosecution foreclosed application of the doctrine of equivalents for one of the devices. *Id.* at 1329. Thus, *Schwing* demonstrates that the doctrine of argument-based estoppel is *not* broader than amendment-based estoppel and does not circumvent this Court's decision in *Festo.*

Accordingly, the Federal Circuit's decision in the instant case correctly applied its well-settled precedent concerning the doctrine of argument-based estoppel, did so in a way that is completely consistent with this Court's

decision in *Festo,* and did not in any way utilize the complete bar approach rejected by this Court. This Court should thus deny certiorari on AccuScan's two questions presented.

## II. THIS COURT SHOULD NOT UPSET THE FEDERAL CIRCUIT'S WELL-SETTLED PRECEDENT CONCERNING THE USE OF ARGUMENT-BASED ESTOPPEL

This Court's Rule 14.1(a) specifically states that "[o]nly the questions set out in the petition, or fairly included therein, will be considered by the Court." Accordingly, "[t]he framing of the question presented has significant consequences" since the Court does not ordinarily "consider questions outside those presented in the petition for certiorari." *Yee v. City of Escondido,* 503 U.S. 519, 535 (1992); *Izumi Seimitsu Kogyo Kabushiki Kaisha v. U.S. Philips Corp.,* 510 U.S. 27, 31-32 (1993). Although this rule is prudential in nature, the Court will only disregard it "in the most exceptional cases." *Yee*, 503 U.S. at 535. There are two principal reasons for the rule: (1) it provides notice to the respondent of the grounds upon which the petitioner seeks certiorari; and (2) it assists the Court in granting certiorari in only those cases that enable the Court to "resolve particularly important questions." *Id.* at 535-36.

AccuScan states in its petition that the doctrine of argument-based estoppel was rejected by this Court in *Keystone Driller Co. v. Northwest Engineering Corp.,* 294 U.S. 42, 48 (1935), suggesting that this Court should overrule this doctrine in its entirety. (AccuScan Pet. at 17.) AccuScan, however, failed to specifically raise this issue in one of its questions presented to this Court. Instead, and as discussed above, AccuScan's two questions are incorrectly

premised upon the Federal Circuit's use of a complete bar approach to preclude the use of the doctrine of equivalents in the instant case.[3] Therefore, under this Court's Rule 14.1(a), the issue of whether to overrule the doctrine of argument-based estoppel in its entirety is not before this Court.

Moreover, even if this Court were to reach this issue, it should still not upset the well-settled precedent of the Federal Circuit. Since *Keystone Driller* was decided in 1935, this Court has repeatedly emphasized the tension between the doctrine of equivalents and the "definitional and public-notice function of the statutory claiming requirement." *Warner-Jenkinson*, 520 U.S. at 29; *Festo*, 535 U.S. at 730-22. In *Festo* itself, this Court explained that the "doctrine of equivalents renders the scope of patents less certain" and warned how the doctrine could result in competitors not engaging "in legitimate manufacturing" *Id.* at 732. This tension, however, is reduced by utilizing the prosecution history to limit the scope of equivalence. The prosecution history, consisting of correspondence, meetings, and other communications between the PTO and the applicant, is of "primary significance" in understanding and interpreting a patent's claims as it supplies the "*undisputed public record*" of proceedings in the PTO. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc)(emphasis added), *aff'd*, 517 U.S. 370 (1996). Using

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[3] It is not surprising that AccuScan did not include this argument in its questions presented as it also failed to raise this argument before the Federal Circuit. AccuScan's failure to raise this issue constitutes a waiver. *United States v. Lovasco*, 431 U.S. 783, 788 n. 7 (1977)(holding that absent exceptional circumstances, this Court will not review an argument not raised in the District Court or the Court of Appeals); *see also Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 800 (Fed. Cir. 1990)( "[A]n issue not raised by an appellant in its opening brief . . . is waived.").

the prosecution history to prevent patentees from asserting equivalence as to subject matter they themselves surrendered reduces uncertainties as to claim scope, and "further insulates the doctrine from any feared conflict with the Patent Act." *Warner-Jenkinson*, 520 U.S. at 34.

For this reason, the Federal Circuit (and its predecessor, the Court of Customs and Patent Appeals) have consistently held—post *Keystone Driller*—that when a patentee clearly and unambiguously argues that its claims do not cover certain subject matter, the patentee should *not* be able to capture the same subject matter during litigation. For example, in *Coleco Indus.*, the C.C.P.A. explained that "[t]here is no practical reason to restrict . . . estoppel theory" to only claim amendments because the applicant's "ultimate goal in submitting amendments and offering arguments in support thereof is the securing of a patent." 573 F.2d at 1258 (C.C.P.A. 1978). Accordingly, the court, expressly relying on the rationale underlying this Court's decision in *Exhibit Supply Co. v. Ace Patents Corp.*, 315 U.S. 126, 136 (1942), found "no reason not to extend the traditional estoppel doctrine beyond estoppel by amendment to estoppel by admission." *Coleco*, 573 F.2d at 1257-58. Likewise, in *Haynes*, the Federal Circuit rejected the argument that estoppel only applies in the context of an amendment because such an argument "exalts form over substance." 8 F.3d at 1579.

Accordingly, the Federal Circuit's uniform and well-settled jurisprudence concerning argument-based estoppel comports with this Court's precedent concerning the importance of prosecution history in assessing equivalence and should not be upset.

Finally, in *Festo*, this Court held that "courts must be cautious before adopting changes that disrupt the settled expectations of the inventing community," particularly in the context of the application of the doctrine of equivalents and prosecution history estoppel. 535 U.S. at 729. The responsibility for changing such expectations rests with Congress, not the courts. *Id.*

Here, the Federal Circuit (and the Court of Customs and Patent Appeals) has consistently applied the doctrine of argument-based estoppel for decades. *See Coleco, Indus.*, 573 F.2d at 1257 (C.C.P.A. *1978*); *Haynes*, 8 F.3d at 1579 (Fed. Cir. *1993*); *Cortland,* 203 F.3d at 1360 (Fed. Cir. *2000*).

The inventing community (including Xerox) has specifically relied on the arguments and statements made by an applicant during prosecution to determine the appropriate scope of a claimed invention both literally and under the doctrine of equivalents. The inventing community includes not only patent holders, but third parties who seek to design around the claims of a patent. The innovation that flows from potential infringers having to design around the claims of a valid patent is one of the core benefits to society of the patent system. *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236 (Fed. Cir. 1985).

Thus, to overrule the doctrine of argument-based estoppel would upset well-settled law, constitute a "[f]undamental alteration[]" in the rules concerning the application of the doctrine of equivalents, and "risk destroying the legitimate expectations of inventors in their property." 535 U.S. at 739. Accordingly, for all the above reasons, this Court should reject AccuScan's suggestion to overrule the doctrine of argument-based estoppel.

## CONCLUSION

For the foregoing reasons, Xerox urges the Court to deny AccuScan's petition for a Writ of Certiorari in its entirety.

Respectfully submitted,

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APPENDIX

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | |
|---|---|---|
| Applicant: | CARL RAYMOND KOLKER | |
| Serial No.: | 511,422 | Group Art No. 233 |
| Filed: | October 2, 1974 | Examiner Britton |
| For: | METHODS AND APPARATUS FOR AUTOMATIC BACKGROUND AND CONTRAST CONTROL | |

Beverly Hills, California 90212
October 14, 1975

Hon. Commissioner of Patents
and Trademark
Washington, D.C. 20231

AMENDMENT

Sir:

Responsive to the Office Action dated June 20, 1975, please amend the above-identified application as follows:

IN THE SPECIFICATION:

At page 3, line 27, after "application", please insert - - now U. S. Patent No. 3,843,839 - -;

Page 13, line 28, before "to", insert - - , now U. S. Patent No. 3,843,839 - -;

Page 14, line 16, after "312,114", insert - - , now U. S. Patent No. 3,843,839 - -;

IN THE CLAIMS:

Claim 1, line 11, after "for", insert - - continually - -;

Claim 10, line 3, after "connected", insert - - in shunt connection - -;

CANCEL CLAIM 17.

## REMARKS

Patent Numbers have been supplied in the specification as required by the Examiner. Correction of the drawings Fig. 1, have been authorized in a separate Letter to the Office Draftsman as required by Examiner and by Item 7 in the Notice of Informal Patent Drawings. In addition, in the correction to the drawings, the input line designated EOF to Unit 41b has been shortened so as to use the same convention with respect to EOF inputs as was used with Unit 43b, i.e., that these are all reception points for the signal EOF from Unit 71.

In the Office Action, the Examiner rejected all of the claims in this case, Claims 1 through 19, under 35 U.S.C. §103, as obvious over the Krallinger, et al. reference in view of the Johnson reference. This rejection is respectfully traversed for reasons which will be set forth fully below.

In order to clarify the reasons for traversal of the rejection, it is desirable to first briefly describe the nature and structure of the Automatic Background and Contrast Control system of the present invention as contrasted with the Krallinger, et al. and Johnson devices. The ABC unit of the present invention includes both a sequencing circuit and a sampling and signal processing circuit and is specially adapted to be used in a facsimile transmitter or receiver. In such operation with a facsimile transmitter, the transmitter develops a ramp deflection voltage which deflects the transmitter scanning element in a calibration scan across a calibration strip which has first an extended black area and then an extended white area established thereon. The sequencing circuit of the ABC unit is responsive to the transmitter's ramp deflection voltage to produce a first sampling signal when the ramp voltage reaches a predetermined magnitude corresponding to the scanning of the black area of the calibration strip and produces a second sampling signal when the ramp voltage reaches a second predetermined magnitude corresponding to the scanning of the white area of the calibration strip.

In the sampling and signal processing functions the ABC unit is operated under the control of these two separated first and second sampling signals. In response to the first sampling signal, the ABC unit stores in the input capacitor of an operational amplifier a sample of the video signal then being produced by the transmitter scanning element, this sample of the video input signal thus being representative of the black shade of the calibration strip then being traversed during the calibration scan. In response to the second sampling signal, the ABC unit stores in the input capacitor of a second operational amplifier a second sample of the video input signal corresponding to the white shade or value of the calibration strip being scanned. Thus, at the

completion of the calibration scan separate black and white representing samples of the input video signal are held stored in the input capacitors of their respective operational amplifiers, which produce corresponding output voltage signals $V_b$ and $V_w$ representative of the voltage magnitudes of the black and white samples. The black and white samples are held stored throughout the complete scanning of the complete document page and both of them are utilized continuously throughout this period to control the automatic background and contrast control operations of the ABC unit. In such operation the signals $V_w$ and $V_b$ are continuously combined in an operational amplifier to continuously produce a signal representative of the magnitude $V_w - V_b$. In addition, the received video input signal (designated $V_{in}$) is continuously combined in an operational amplifier with the signal $V_b$ to produce an output signal representative of the magnitude $V_{in} - V_b$. The two output signals $V_{in} - V_b$ and $V_w - V_b$ are continuously combined in a divide circuit to produce a final output signal $V_0$, which has a magnitude representative of the quantity $\frac{V_{in} - V_b}{V_w - V_b}$. This represents a fully normalized and gain corrected signal which is corrected both for undesired voltage offsets and biases and for undesired gain variations. It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the continual storage of the separate black and white samples throughout the subsequent scanning and transmission of a document, and by the continuous use during such period of the separately stored black and white samples to continuously correct the video signal received during the scanning of the document. Moreover, the ABC unit of the present invention is further characterized by automatic production and sequencing of the separate black and white sampling signals in response to the corresponding

magnitudes of the ramp deflection voltage of the transmitter during the calibration scan.

Referring now in contrast to the Krallinger, et al. device, the Krallinger, et al. patent shows a drum-type facsimile transmitter receiver in which a black line or bar is provided the length of the drum along the left-hand edge of the document to provide a black calibration area at the beginning of each line. The white margin of the document immediately following the black bar provides the white calibration area. A sync signal is generated at the beginning of a line by a mirror and light combination which is aligned with the black bar and flashes a burst of light into a detector. This single sync signal is used as a sampling signal to store the corresponding black signal in the input capacitor of a controllable gain video amplifier to thereby set the reference level of the video amplifier. The immediately following white signal is not sampled or stored but instead, because of its appearance immediately following the black signal, is used in a servo operation to vary the gain of the controllable amplifier so that the amplified white signal is equal to a preset reference voltage $V_r$. This amplification or gain level once obtained, is held throughout the complete line by the cumulative charge stored in an error capacitor 52 which represents the cumulative level of the error signals produced in the slewing operations of the gain control servo of the amplifier. Capacitor 52 is a storage element but it does not store a sample of the white signal, and, moreover, a sample of the white signal is not stored at any place or position in the Krallinger, et al. circuit.

In the further operation of the Krallinger, et al. device, during the scanning of the line the input video signal, background corrected by the black signal stored in capacitor 20, is multiplied by the temporarily fixed gain of the

amplifier 24 throughout the remainder of the line so as to yield a background and gain compensated signal. It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized, the operation being merely that of setting the gain of the amplifier 24 and then using this fixed gain amplifier 24 as a multiplying or amplifying unit throughout the completion of the single line scan period. At the completion of each line scan the Krallinger, et al. circuit is reset by the sync pulse and repeats its calibration and operation functions during each successive line scan.

This operation of recalibrating at each line of the scan in the Krallinger, et al. device presents its own peculiar problems. If the black line or the white margin varies in shade along its length, this will result in different shading and contrast characteristics along the length of the document page being transmitted by the Krallinger, et al. transmitter.

The Johnson reference is merely cumulative to the Krallinger, et al. reference. The Johnson reference relates to an automatic gain control circuit for reading video signals recorded on a magnetic tape or other recording medium. The system assumes that successive black and white representing calibration signals have been inserted in the video recording in the blank or retrace area and these signals are used to set the gain of the following amplifier. As in the Krallinger, et al. device, the black signal is stored in a capacitor 55 to set a base voltage reference for the operation of the device. However, the immediately following white signal is not in any way sampled or stored but is instead used to control the setting of the gain of the variable amplifier of the device to bear a fixed relation to a reference bias. Thus, the ensuing white sample is not sampled or stored in any manner and is not available during the ensuing operation. What is used

during the ensuing operation is the stored black signal and the fixed gain of the variable amplifier which is held at a fixed gain level by integrated error charge on an error condensor 79. As in the Krallinger, et al. device, this charge on error condensor 79 represents the integral of the error values of the amplifier gain servo and is not a sample of the white signal.

It is, moreover, clear referring to the Krallinger, et al. and Johnson references that their circuitry and functions are so dissimilar that neither could be incorporated or combined with the other without destruction of both the primary and secondary reference. There is no teaching whatsoever for such combination and such combination could only be done by way of hindsight and through destruction of the operating circuitry of these references.

Referring now to the claims and keeping in mind the aforedescribed distinctions between the structure and function of the present invention and that of the references. It is clear referring to Claim 1, that although the references do show the element A of the combination ("means for storing a first sample of said input signal"), the references do not show the second element B of the combination ("means for storing a second sample of said input signal when said input parameter is at its second magnitude"). Thus, Krallinger, et al. or Johnson may show a device which stores a sample of the black value of the input signal but they do not store a second sample of the white value of the input signal. Similarly, referring to element C of the combination, since neither Krallinger, et al. nor Johnson store a second sample of the input signal, they have no apparatus which is operable during the operating period for "combining said input signal and said first and second samples to continually produce . . .". Moreover, in the present amendment in order

to further emphasize the above-described distinctions, Claim 1 has been amended at line 11, so that the last named means is recited as "continually combining said input signal and said first and second samples".

Claim 2 is dependent upon Claim 1 and is similarly allowable. Moreover, Claim 2 introduces as a claimed element of the combination a facsimile transmitter having document areas which are scanned therein to produce the black and white signals and the subsequent variable magnitude signal representative of the shade of document area scanned in the transmitter. It is noted that the secondary Johnson reference does not deal at all with a facsimile transmitter but instead depends upon the availability of recorded video signals on a magnetic tape.

Claim 3 is dependent upon Claim 2 and further distinguishes over the references by reciting the automatic sequencing operation of the present ABC systems in which the facsimile transmitter generates the ramp deflection voltage to deflect the scanning element across the document and the first sample of the input signal is automatically stored in response to the ramp voltage reaching a predetermined magnitude corresponding to the scanning of the first area of the document. No such automatic sampling operation is shown in the Krallinger, et al. reference in response to the magnitude of the ramp deflection voltage of the facsimile transmitter. In the Krallinger, et al. reference, the sampling signal for the black signal is produced by the flash of light from the sync mirror.

In Claim 4 a similar and second apparatus is recited for storing the second sample of the input voltage in response to a second magnitude of the ramp deflection voltage corresponding to the scanning of the second area. This entire

structure and operation is entirely absent in the applied references.

Claims 5, 6 and 7 are dependent upon Claim 4 and are similarly allowable.

Referring to Claim 8, this claim fully distinguishes over the applied references by its recitation of "a second circuit means responsive to said first and second samples for continually producing a second different signal representative of their difference in magnitude" and further distinguishes in its recitation of "divider circuit means responsive to said first and second different signals for producing said output signal representative of the quotient of their magnitudes". This structure and operation is entirely absent in the references which do not have a divider circuit and do not continually produce a difference signal representative of the difference of the first and second samples.

Claim 9 is dependent upon Claim 3 and is similarly allowable. Claim 10 is dependent upon Claim 1 and is distinguished over the references in the same manner.

In the present amendment in order to further distinguish Claim 10, the words "in shunt connection" have been provided at line 3 to clarify the nature of the connection of the storage capacitor to the input of the operational amplifier. Such connection of the storage capacitor is not found in the references.

Claim 11 is a dependent claim which includes most of the aforesaid described distinguishing elements including the production of both separate first and second sampling signals in response to corresponding voltage magnitudes of

the horizontal ramp deflection voltage and the storing of the first and second samples in response to the first and second sampling signals, all in combination with a facsimile transmitter which generates a ramp deflection voltage to deflect its canning element in the calibration scan across first and second calibration areas of corresponding first and second shades of darkness. Thus, Claim 11 is directed to the automatic sequencing of the sampling and hold operations and is clearly distinguished over the references.

Independent Claim 13 is similar in scope to Claim 1 and is distinguished in the same manner by its recitation of its second and third means. The references lack any means for storing a second sample of the video input signal or producing a second signal representing said stored second sample, and further lacks any means for continually combining said video input signal with said first and second signals during scanning of said source document areas. Claim 13 is dependent upon Claim 12 and is similarly allowable. Claim 14 is also dependent upon Claim 12 and is similarly allowable. Moreover, in the receiver of the Krallinger, et al. reference, the successive black and white signals applied to the receiver are merely arbitrary locally generated reference signals and have nothing whatsoever to do with the black and white signals generated by the calibration scan across the document as would be required by parent Claim 12.

Claim 15 which is dependent upon Claim 12 is similarly allowable and additionally describes in detail the manner in which the first and second sampling signals are generated in response to the successive voltage magnitudes of the ramp deflection voltage. Claim 16 is dependent upon Claim 12 and similarly distinguishes over the references.

Claim 18 is a method claim which recites separate storage of first and second samples and production of first and second signals representative of the stored first and second samples. Claim 18 further recites combining said first and second signals to produce a second output signal having a magnitude representative of their difference in magnitude and still further recites combining said first and second output signals. As has been previously discussed none of the references have any means for storing a second sample or producing a second signal representative of the stored second sample or combining the first and second signals to produce a second output signal representative of their difference in magnitude. Thus, method Claim 18 is clearly distinguished over the references.

Claim 19 is dependent upon Claim 18 and is similarly distinguished.

In view of the foregoing analysis of the distinguishing features of the claims in relation to the applied references, favorable action is respectfully solicited.

Respectfully submitted,

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Supreme Court, U.S.
FILED
JAN 26 2004
OFFICE OF THE CLERK

(2)

No. 03-869

IN THE

# Supreme Court of the United States

ACCUSCAN, INC.,

*Petitioner*,

*v.*

XEROX CORPORATION,

*Respondent.*

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

## REPLY BRIEF

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## PARTIES TO THE PROCEEDING

The names of all parties in the court whose judgment is sought to be reviewed appear in the caption of the petition for writ of *certiorari*.

Pursuant to Supreme Court Rule 29.6, petitioner, AccuScan, Inc. ("AccuScan"), states that it has no parent company and that no publicly held company owns 10% or more of its stock.

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## I. THE ISSUES RAISED IN THIS PETITION ARE OF MANIFEST IMPORTANCE TO OUR PATENT SYSTEM

Xerox argues that this Court should deny AccuScan's petition because the decision below represents nothing more than the application of well-established precedent to a "routine" or "garden variety" patent case. (Br. In Opp., at 2 & 12-13). To the contrary, however, the issues raised in AccuScan's petition are of manifest importance to our patent system and demonstrate the Federal Circuit's continued hostility towards application of the doctrine of equivalents.

Last term, this Court affirmed the continued vitality of the doctrine of equivalents in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002). *See also Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17 (1997). While the Court's decision in *Festo* explicitly addressed the effect of claim amendments on prosecution history estoppel (amendment-based estoppel), the decision below relied on arguments—*not* claim amendments[1]—made during prosecution of AccuScan's patent application in the Patent Office (argument-based estoppel) to unrebuttably foreclose infringement under the doctrine of equivalents.

Despite Xerox's suggestion to the contrary, the law dealing with argument-based estoppel is neither "well settled" nor "well-established" in this Court (Br. In Opp., at 1, 2, 9, 12, 13 & 19). *See Keystone Driller Co. v. Northwest*

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[1] Xerox complains that AccuScan somehow misrepresented that no amendment was made to the Kolker patent claims. (Br. In Opp., at 7). While it is true that one of the claims at issue—Claim 1—was amended during prosecution, that amendment was *not* implicated in the decision below. (AccuScan Pet. App. A at 5a) ("That conclusion [of no infringement under the doctrine of equivalents] was not based on any narrowing amendment giving rise to prosecution history estoppel.").

*Eng'g Corp.*, 294 U.S. 42, 48 (1935) ("[w]e do not attribute the force of an estoppel to what was said by the claimant in seeking to avoid prior art cited against his broad claims").

The Federal Circuit's application of argument-based estoppel has far-reaching impact since statements are made by an applicant during prosecution of virtually every patent application. The lack of certainty in the law on this issue leads to unpredictable and potentially unfair results. The significance of the issues presented in AccuScan's petition and the necessity for this Court to clarify the law of argument-based estoppel are confirmed by the existence of another petition for writ of *certiorari* pending before the Court on this issue. *See Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352 (Fed. Cir. 2003), *petition for cert. filed, Medtronic Vascular, Inc. v. Cordis Corp.*, (U.S. Jan. 5, 2004) (No. 03-963).

## II. THE COURT BELOW IS BOUND BY THIS COURT'S DECISION IN *KEYSTONE DRILLER*

Xerox's efforts to avoid the consequences of this Court's statement in *Keystone Driller* are telling. (Br. In Opp., at 17-20). The questions presented in AccuScan's petition clearly encompass this Court's statements in *Keystone Driller*[2] and there has been no waiver of that issue.[3]

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[2] Contrary to Xerox's assertions (Br. In Opp., at 17-18), the questions presented in AccuScan's petition clearly articulate the need for this Court to identify the standard for determining when, if ever, argument-based estoppel applies to limit the doctrine of equivalents and the scope of any such estoppel. (AccuScan Pet., at i). Moreover, Xerox clearly had notice of AccuScan's position with respect to *Keystone Driller*, which was set forth in AccuScan's petition. (AccuScan's Pet., at i, 17).

[3] Xerox's assertion that AccuScan waived any argument based on *Keystone Driller* (Br. In Opp., at 18 n.3) is misplaced since AccuScan has steadfastly argued that the statements made during prosecution of the Kolker patent did not estop the doctrine of equivalents. Moreover, it is

In *Keystone Driller*, this Court rejected the notion that prosecution history estoppel could be created based on arguments made to the Patent Office:

> *We do not attribute the force of an estoppel to what was said by the claimant in seeking to avoid prior art* cited against his broad claims, but we do apply the principle that where such broad claims are denied and a narrower substituted, the patentee is estopped to read the granted claim as the equivalent of those which were rejected.

*Keystone Driller*, 294 U.S. at 48 (emphasis added).

Despite this unequivocal statement, that is precisely what the Federal Circuit has resorted to in the decision below. In fact, since *Keystone Driller* and *prior to* the creation of the Federal Circuit in 1982, the circuit courts remained split with respect to the applicability of argument-based estoppel. For instance, consistent with *Keystone Driller*, argument-based estoppel had been rejected by at least four circuit courts—the First, Second, Fourth and

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well settled that this Court can apply the correct law even if the parties did not argue it below. *See U.S. Nat'l Bank of Or. v. Indep. Ins. Agents of Am., Inc.*, 508 U.S. 439, 446-47 (1993); *Kamen v. Kemper Fin. Serv., Inc.*, 500 U.S. 90, 99 (1991) ("When an issue or claim is properly before the court, the court is not limited to the particular legal theories advanced by the parties, but rather retains the independent power to identify and apply the proper construction of governing law."); *Forshey v. Principi*, 284 F.3d 1335, 1357 (Fed. Cir.), *cert. denied*, 537 U.S. 823 (2002), *superseded by statute on other grounds* ("we may decide to apply the correct law even if the parties do not argue it, if an issue is properly before this court"); *Williams-Guice v. Bd. of Educ. of City of Chicago*, 45 F.3d 161, 164 (7th Cir. 1995); *Empire Life Ins. Co. of Am. v. Valdak Corp.*, 468 F.2d 330, 334 (5th Cir. 1972).

Seventh Circuits.[4] In analogizing patents to contracts, Judge Learned Hand emphasized the risk and uncertainty associated with limiting claims based on arguments made by patent solicitors to the Patent Office:

> We have often said that we would not look at the arguments used by solicitors to the examiners; specifications are intended to be the measure of the monopoly and of the contribution to the art. In each aspect they should be self-contained; that is the very purpose of their embodiment in a formal grant, which is all that is accessible to the public without much trouble and vastly more

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[4] *See Ekco Prod. Co. v. Chicago Metallic Mfg. Co.*, 321 F.2d 550, 555 (7th Cir. 1963) ("The claim must be construed to cover the actual invention and may not be limited by extraneous remarks in argument unaccompanied by actual amendment of the claim."); *Smith v. Mid-Continent Inv. Co.*, 106 F.2d 622, 627 (8th Cir. 1939) ("Such an estoppel is not, however, based upon the discussion in the Office or even upon statements made, in the Office, by the applicant but rests upon the rejection and substitution of claims. ... Under the rule above stated, we consider only the rejection and substitution of claims as the possible basis of estoppel."); *Bassick Co. v. Faultless Caster Corp.*, 105 F.2d 228, 231 (7th Cir. 1939) ("the terms of a claim should not be limited or extended by mere extraneous remarks of the applicant in argument without an actual amendment of the claim to that effect"); *Denominational Envelope Co. v. Duplex Envelope Co.*, 80 F.2d 186, 192 (4th Cir. 1935) ("the solicitors' arguments of themselves set up no estoppel"); *Catalin Corp. of Am. v. Catalazuli Mfg. Co.*, 79 F.2d 593, 594 (2d Cir. 1935) ("[w]e have often said that we would not look at the arguments used by solicitors to the examiners"); *Bowser, Inc. v. Richmond Eng'r Co.*, 166 F. Supp. 68, 76 (E.D. Va. 1958), *aff'd in part, rev'd in part*, 264 F.2d 595 (4th Cir. 1959) ("Mere arguments of a patent solicitor before the Patent Office do not constitute file wrapper estoppel especially where such arguments are based upon limitations not carried into the claims."); *Keyes Fibre Co. v. Chaplin Corp.*, 97 F. Supp. 605, 612 (D. Me. 1951) ("The law is clear that this Court cannot look to the arguments of counsel to the Patent Office to establish estoppel of the patentee as to the scope of allowed claims, where no change in the claims has resulted from that argument.").

> uncertainty. If the doctrine of the 'integration' of a written instrument has any basis at all, surely it should apply to such a document, for if a patent can be construed only by threading one's way through all the verbal ingenuities which casuistical solicitors develop to circumvent the objections of examiners, a labyrinth results, from which there is no escapt [*sic*].

*Catalin Corp.*, 79 F.2d at 594; *see also Denominational Envelope*, 80 F.2d at 192-93 ("[T]he solicitors' arguments of themselves set up no estoppel. 'We read the claims as they are written, like the language of any other formal statement drawn up as the final memorial of the parties' intentions, and we decline to consider what was said arguendo during the passage of the case through the Patent Office ....'") (citations omitted).

Other circuits—the Sixth, Eighth and Tenth Circuits—have expressed a contrary view.[5] This Court has never addressed the conflict among the circuits over the issue of argument-based estoppel.[6]

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[5] *See Quikey Mfg. Co. v. City Prod. Corp.*, 409 F.2d 876, 878-89 (6th Cir. 1969); *Doran Coffee Roasting Co. v. Wyott Mfg. Co.*, 267 F.2d 200, 203-04 (10th Cir. 1959); *Wiegand v. W. Bingham Co.*, 106 F.2d 546, 548 (6th Cir. 1939); *Black & Decker Mfg. Co. v. Ever-Ready Appliance Mfg. Co.*, 518 F. Supp. 607, 615 (E.D. Mo. 1981), *aff'd*, 684 F.2d 546 (8th Cir. 1982).

[6] This conflict within the circuit courts is a legitimate concern since "[n]ot all cases involving a patent-law claim fall within the Federal Circuit's jurisdiction." *Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 834 (2002); *see also E.I. Du Pont de Nemours & Co. v. Okuley*, 344 F.3d 578, 583 n.3 (6th Cir. 2003); *Telcomm Tech. Serv., Inc. v. Siemens Rolm Communications, Inc.*, 295 F.3d 1249, 1251-52 (Fed. Cir. 2002). Therefore, each circuit court will likely apply the law in that circuit to patent appeals within their jurisdiction.

Today, despite this Court's statement in *Keystone Driller* that arguments presented to the Patent Office should not create an estoppel, the Federal Circuit continues to rely on argument-based estoppel to foreclose infringement under the doctrine of equivalents. *See Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 836 (Fed. Cir. 2003); *Cortland Line Co. v. Orvis Co.*, 203 F.3d 1351, 1360 (Fed. Cir. 2000); *Pharmacia & Upjohn Co. v. Mylan Pharm., Inc.*, 170 F.3d 1373, 1376-79 (Fed. Cir. 1999); *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1578-79 (Fed. Cir. 1993), *clarified on rehearing*, 15 F.3d 1076 (Fed. Cir. 1994); *Texas Instruments Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1174-75 (Fed. Cir. 1993); *see also Deering Precision Instruments, L.L.C. v. Vector Distribution Sys., Inc.*, 347 F.3d 1314, 1326 (Fed. Cir. 2003), *petition for cert. filed* (Dec. 31, 2003) (No. 03-958); *Cordis Corp.*, 339 F.3d at 1363; *Schwing GmbH v. Putzmeister Aktiengesellschaft*, 305 F.3d 1318, 1327 (Fed. Cir. 2002); *Eagle Comtronics, Inc. v. Arrow Communication Lab., Inc.*, 305 F.3d 1303, 1316 (Fed. Cir. 2002), *cert. denied*, 537 U.S. 1172 (2003); *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1350 (Fed. Cir. 2002); *Interactive Pictures Corp. v. Infinite Pictures, Inc.*, 274 F.3d 1371, 1378-80 (Fed. Cir. 2001), *cert. denied*, 537 U.S. 825 (2002).

Thus, there exists a need for this Court to reconcile its statements made in *Keystone Driller* with the Federal Circuit's reliance on argument-based estoppel in the context of foreclosing infringement under the doctrine of equivalents.

## III. THE FEDERAL CIRCUIT'S APPLICATION OF ARGUMENT-BASED ESTOPPEL DENIES PATENTEES ANY OPPORTUNITY TO REBUT THE ALLEGED ESTOPPEL

Xerox also argues that this Court should deny AccuScan's petition because, *inter alia*, "the Federal

Circuit's application of argument-based estoppel does not in any way implicate the 'complete bar' approach rejected by this Court in *Festo*." (Br. In Opp., at 14). Xerox, however, misses the point.

AccuScan is not arguing that the decision below applied amendment-based estoppel in a manner inconsistent with this Court's holding in *Festo*, but rather that the Federal Circuit has adopted the use of argument-based estoppel to completely foreclose the doctrine of equivalents *without* any opportunity to rebut the estoppel.

In *Festo*, this Court rejected the Federal Circuit's complete bar of the doctrine of equivalents when an amendment was made to a claim. *Festo*, 535 U.S. at 740-41. Instead, this Court confirmed that a patentee may rebut the presumption of prosecution history estoppel arising from a narrowing amendment:

> There are some cases, however, where the amendment cannot reasonably be viewed as surrendering a particular equivalent. The equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. In those cases the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence.

*Id.*

While the Court's decision in *Festo* explicitly addressed the effect of claim amendments on prosecution history estoppel, the decision below went one step further by relying on arguments—*not* claim amendments[7]—made during prosecution of a patent application in the Patent Office to foreclose infringement under the doctrine of equivalents *without* affording AccuScan any opportunity to rebut a finding of estoppel. (AccuScan Pet. App. A at 5a-6a).

Thus, in contrast to this Court's pronouncement in *Festo* of a rebuttable presumption in the context of amendment-based prosecution history estoppel, the decision below foreclosed any opportunity whatsoever to rebut argument-based estoppel in the context of the doctrine of equivalents. By finding that arguments to distinguish prior art narrow claim terms and create an unrebuttable estoppel upon the doctrine of equivalents, the panel below reached far beyond the absolute bar of the Federal Circuit's *en banc* *Festo* decision, which this Court reversed.

Should this Court conclude that argument-based estoppel can serve as a limitation on the doctrine of equivalents, then, at the very least and consistent with this Court's holding in *Festo*, a patentee should be permitted to rebut the alleged surrender of subject matter in the same manner that a patentee may rebut the presumption of amendment-based prosecution history estoppel.

## IV. ARGUMENT-BASED ESTOPPEL CREATES UNCERTAINTY AND DEFEATS THE EXPECTATIONS OF THE PATENTEE

Xerox argues that this Court should not "upset" the Federal Circuit's application of argument-based estoppel because the court has applied this principle for years. (Br. In

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[7] (AccuScan Pet. App. A at 5a).

Opp., at 18-20). The Federal Circuit's prior application of argument-based estoppel does not justify its continued disregard of this Court's statement in *Keystone Driller*.

Moreover, the inconsistent manner in which the Federal Circuit relies on arguments made during patent prosecution is prone to unpredictable and potentially unfair results. In contrast to claim amendments, application of argument-based estoppel renders the true scope of patent claims much more uncertain.

The extreme result of the Federal Circuit's application of argument-based estoppel is demonstrated by the decision below where the court relied on statements in the patent prosecution history to conclude that there was "a clear and unmistakable surrender" of subject matter *far more* expansive than the arguments made to distinguish the claims over the Krallinger reference (AccuScan Pet. App. A at 5a). *See Cybor Corp. v. FAS Tech., Inc.*, 138 F.3d 1448, 1458 (Fed. Cir. 1998) (*en banc*) (recognizing that the prosecution history should not limit scope of claims beyond arguments made by the patentee to distinguish over the prior art).

The Kolker patent applicant's statements relied upon by the court below evidence that the basis for distinguishing the Krallinger reference was that the Kolker invention provided page-by-page calibration, rather than the line-by-line calibration disclosed in the Krallinger reference where there was no need to store the white reference $V_w$ because a new $V_w$ was detected in the margin of each line. (AccuScan Pet. App. G at 72a). Nevertheless, the panel below applied argument-based estoppel to restrict the claims to storing $V_w$ in its "pure form," when no such statement was ever made by the patent applicant. (AccuScan Pet. App. A at 4a). As such, Xerox was able to evade infringement under the doctrine of equivalents despite the fact that its accused products used page-by-page calibration as in the Kolker patent.

The panel below also held that "AccuScan explicitly disclaimed coverage of any device performing the mathematical calculation yielding $V_o$ by something other than a divide circuit." (AccuScan Pet. App. A at 3a). Again, Xerox evaded infringement despite the fact that at least two of its accused products performed operations representative of division—namely, multiplication by a reciprocal and subtraction of logarithmic values. (AccuScan Pet. App. C at 17a).

Consequently, as demonstrated by the decision below, the Federal Circuit has developed argument-based estoppel into a mechanism that arbitrarily circumvents the doctrine of equivalents in contravention of this Court's precedent. AccuScan respectfully requests that this Court provide the correct standards for the fair and consistent application of claim arguments to the doctrine of equivalents.

## CONCLUSION

The petition for writ of *certiorari* should be granted and the judgment below reversed.

Respectfully submitted,

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